

Figure 1

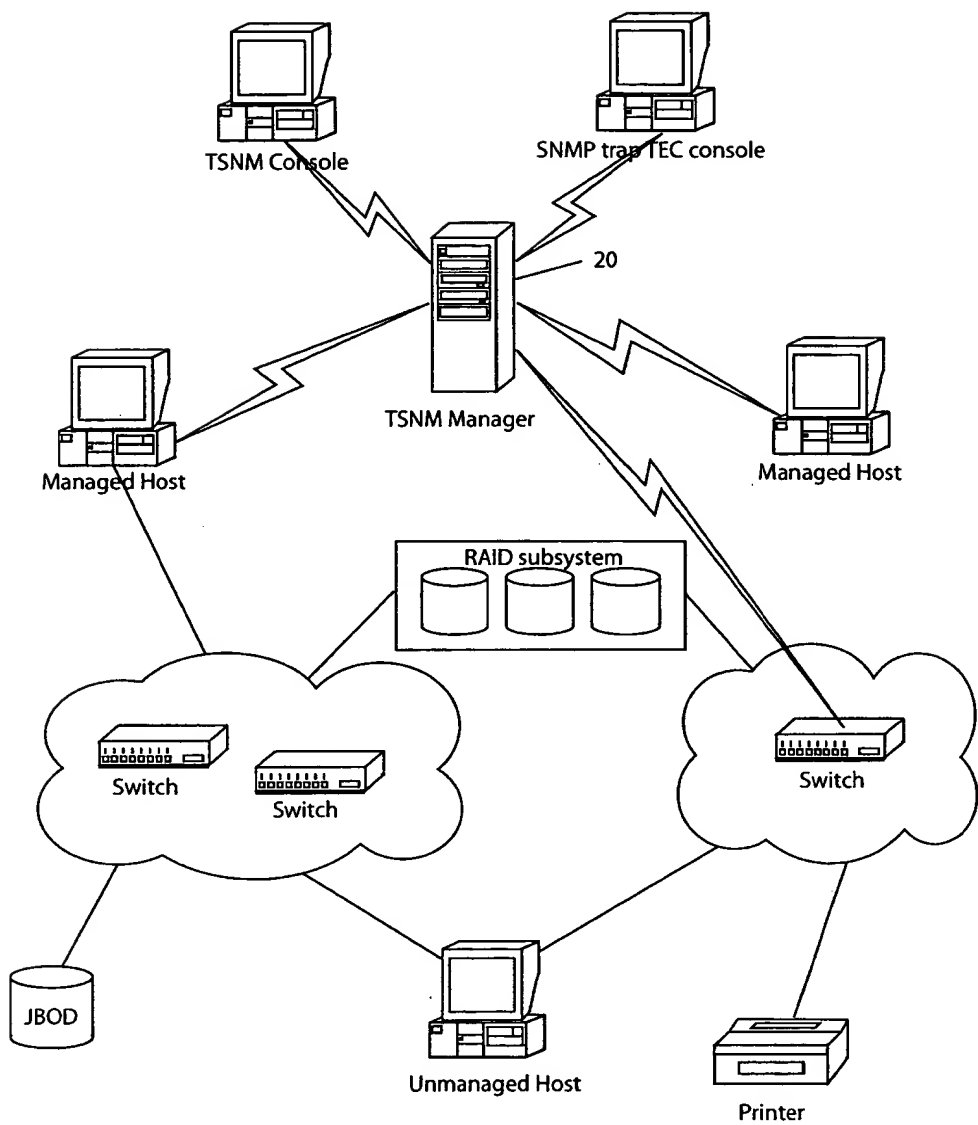


Figure 2

Patent Application No. 09/000,000

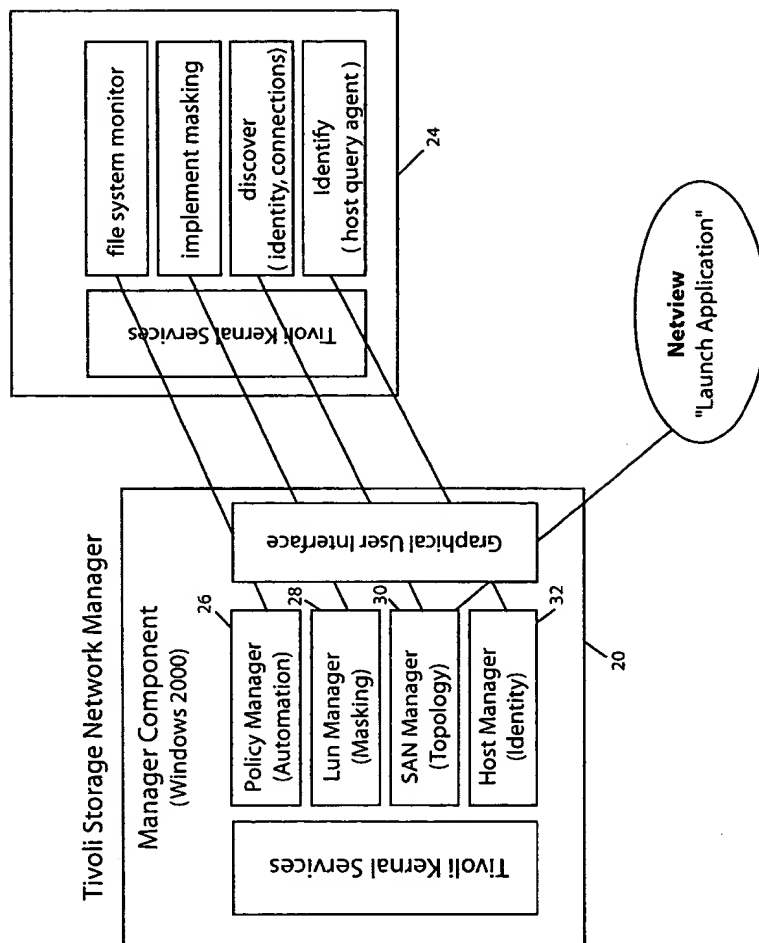


Figure 3

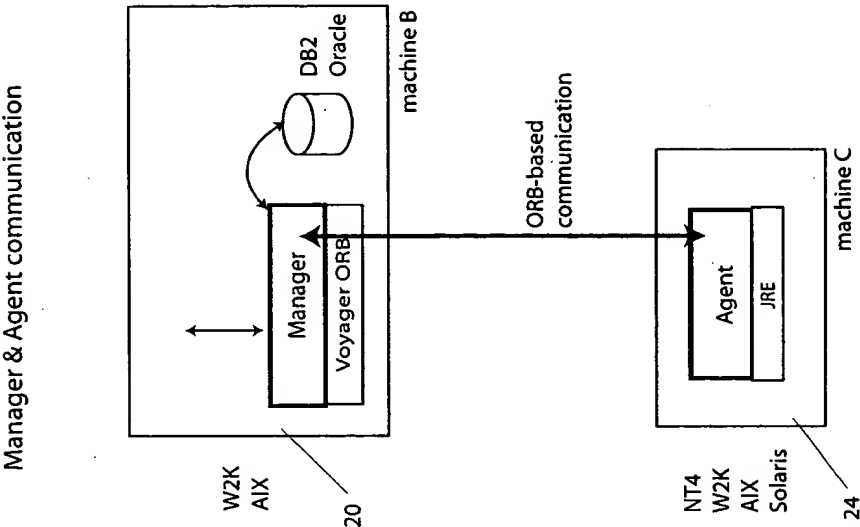


Figure 4

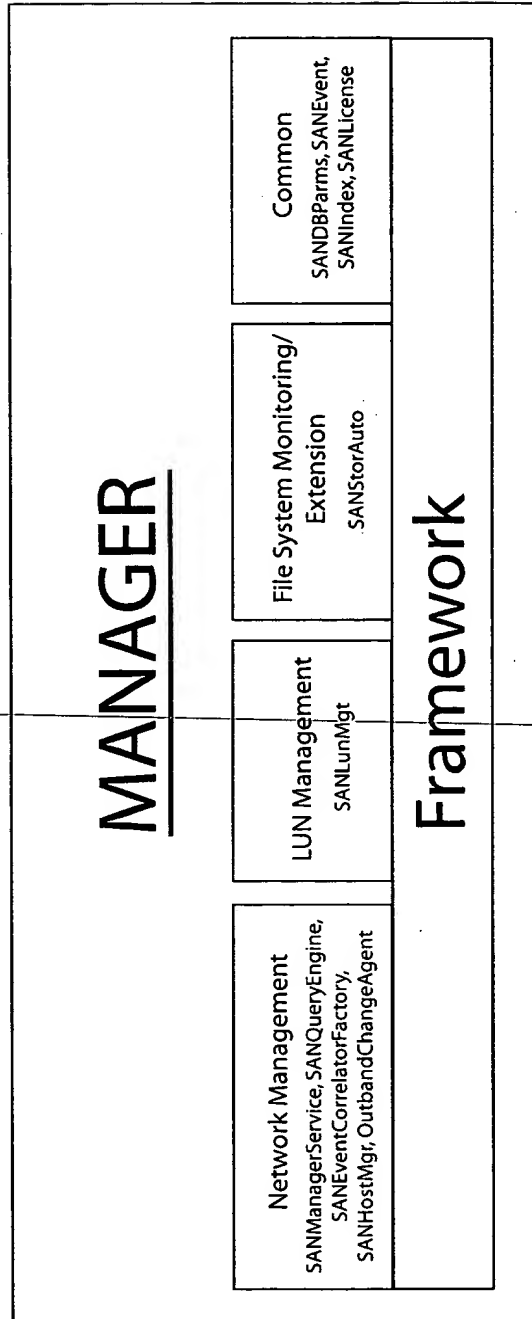
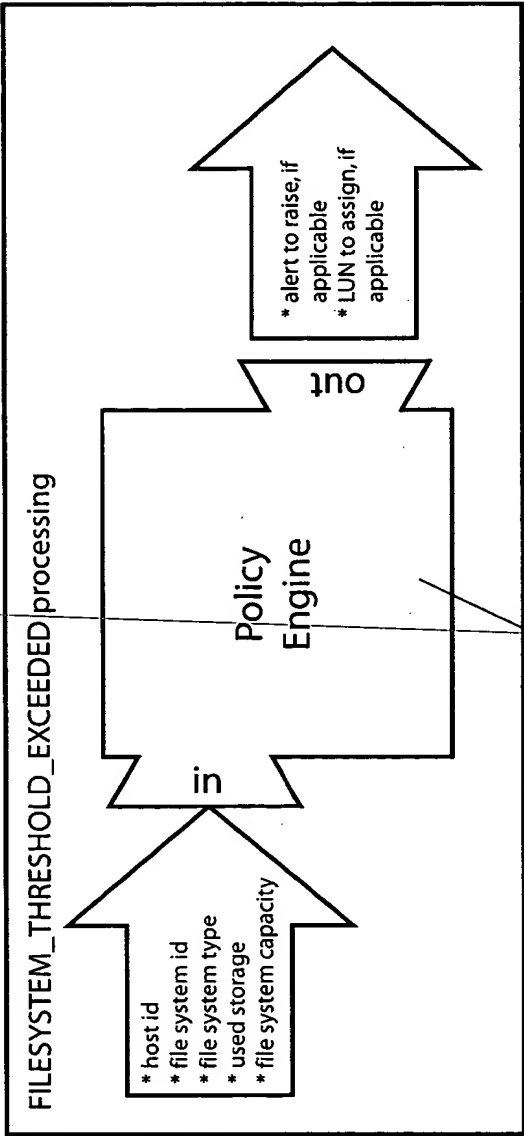


Figure 5



FILESYSTEM_THRESHOLD_EXCEEDED



38a

Figure 7A

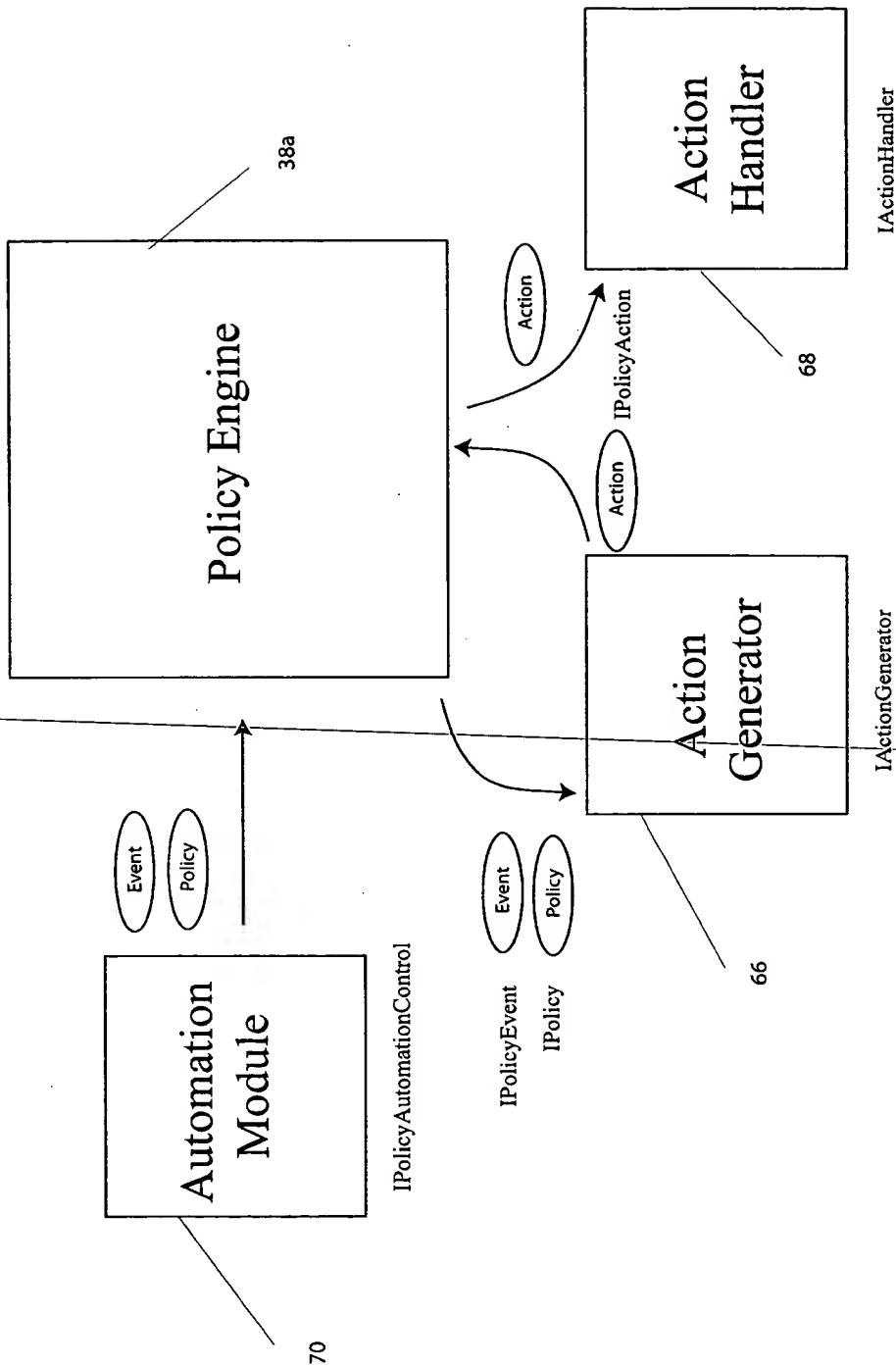


Figure 7B

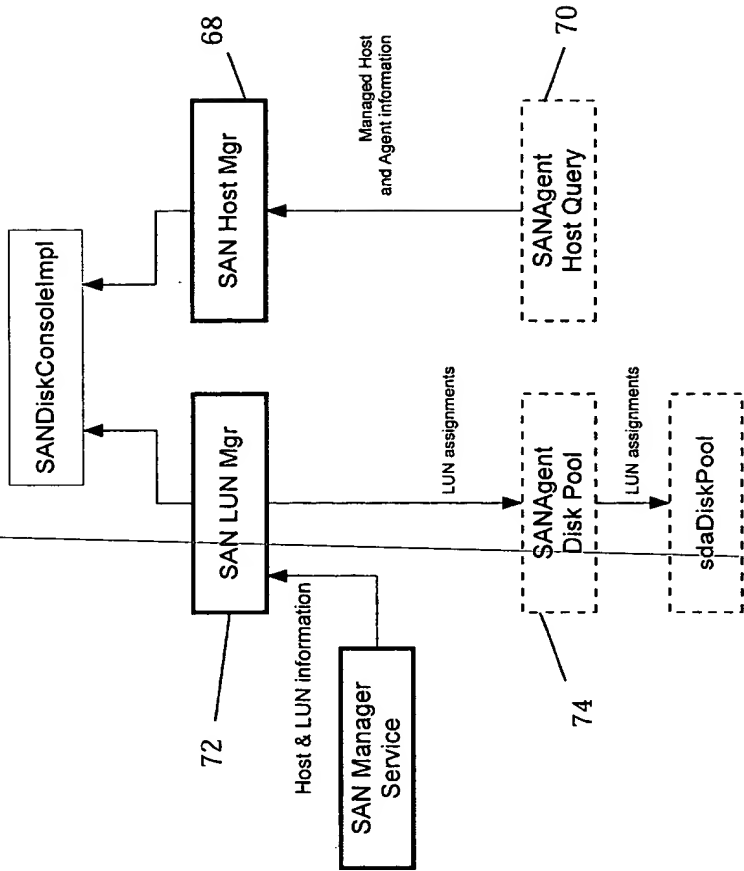


Figure 8

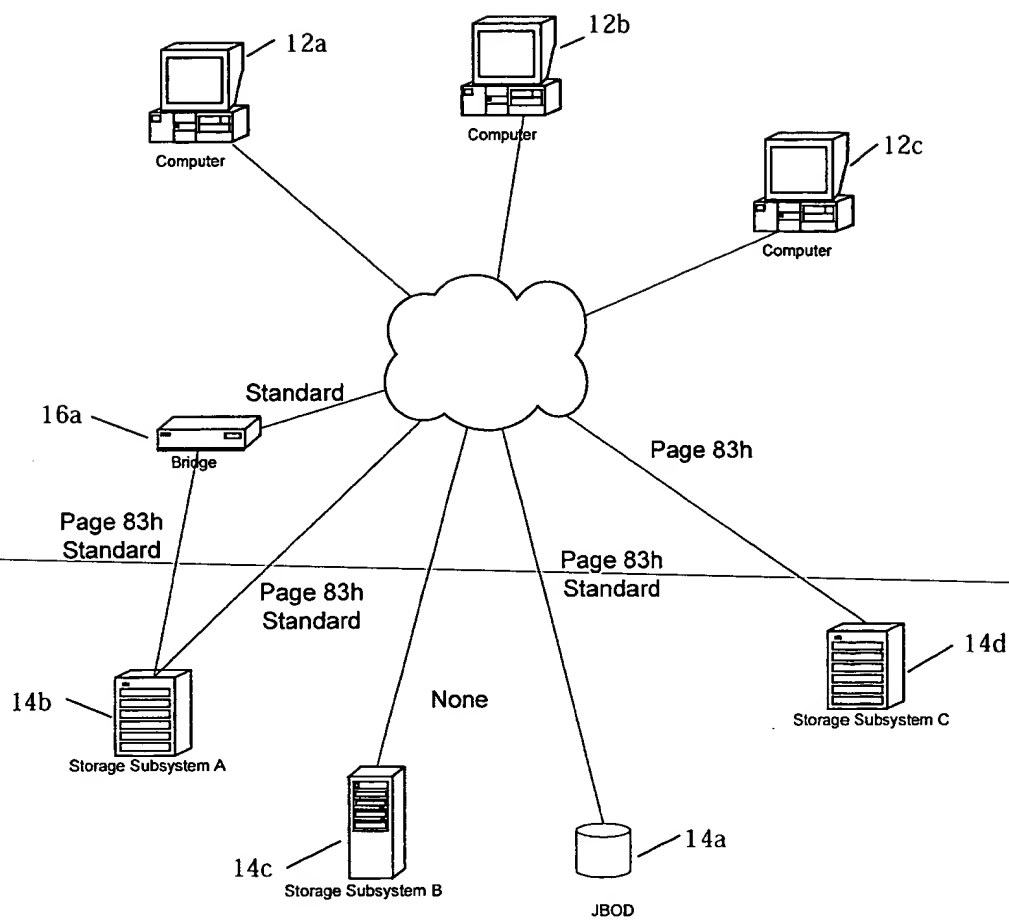
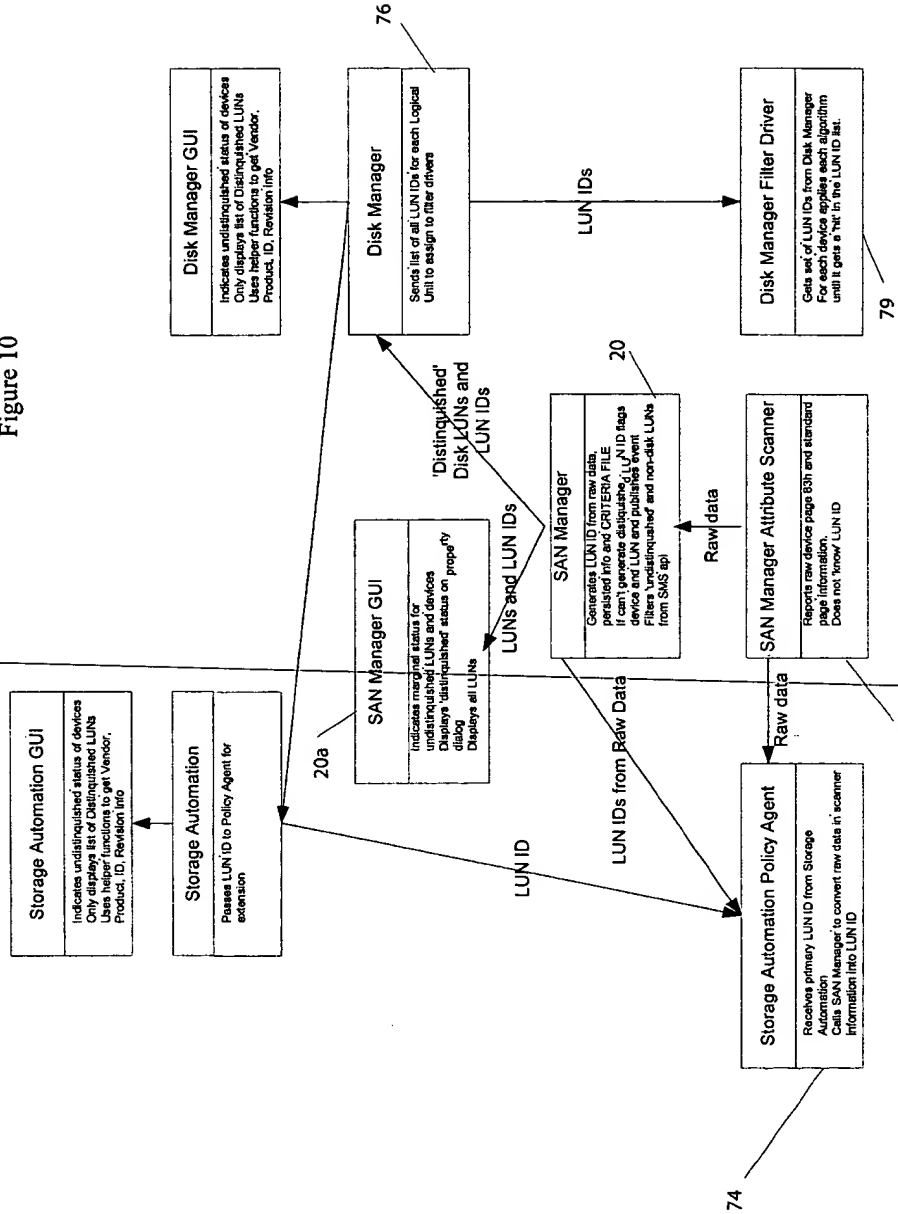


Figure 9

Figure 10



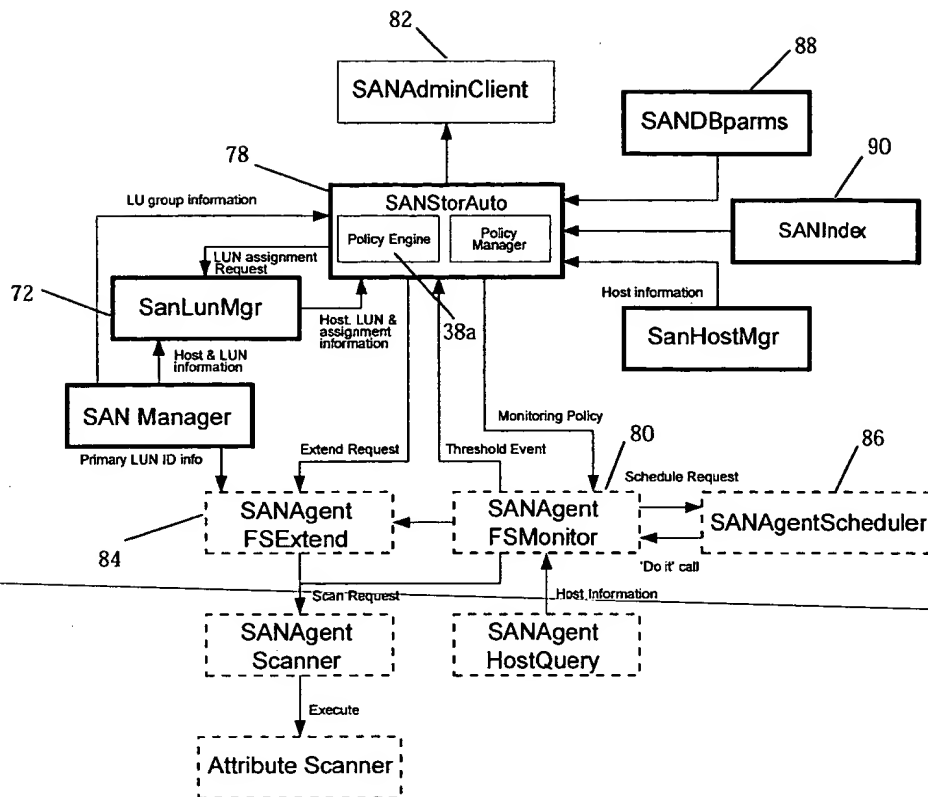


Figure 11

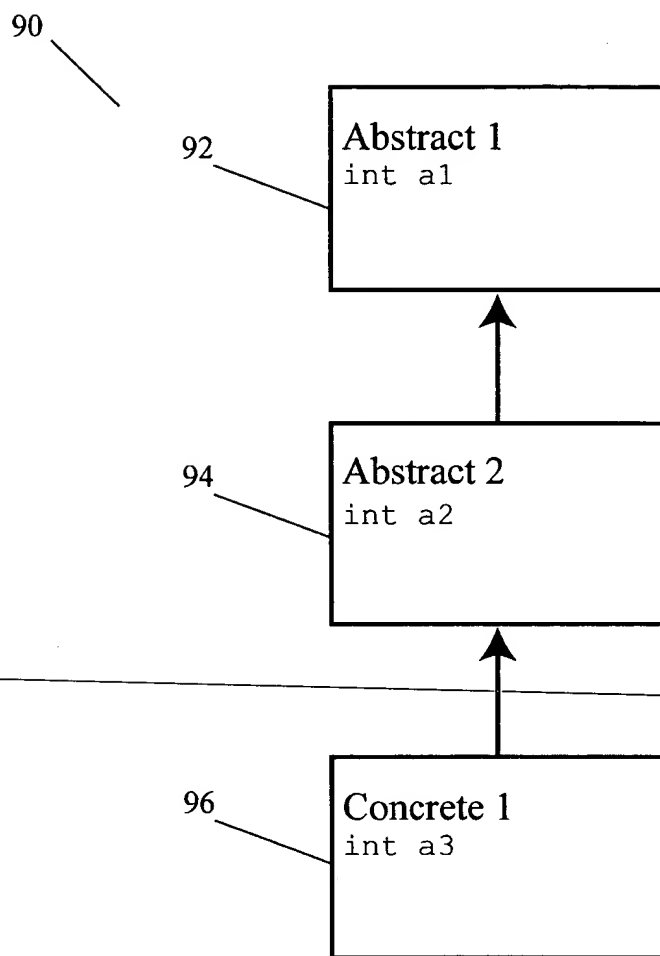


Figure 12

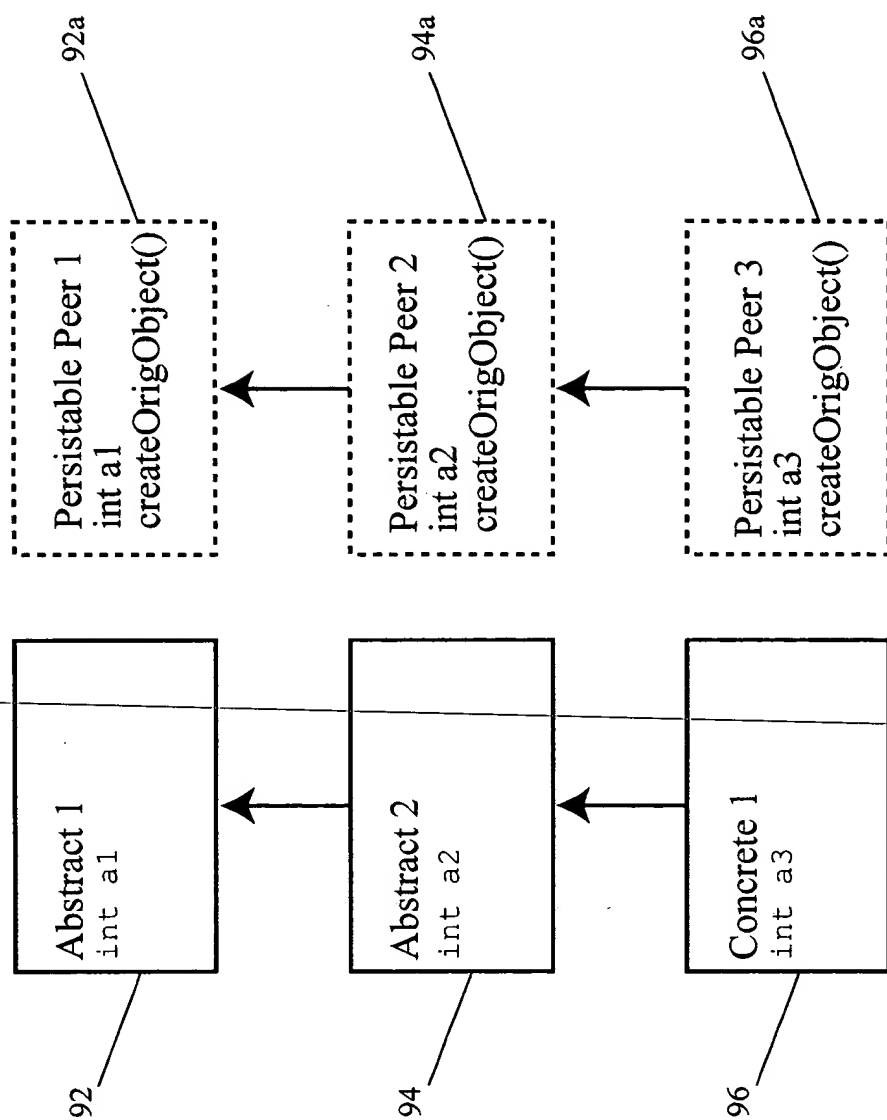


Figure 14a

Figure 14b

Figure 14c

Figure 14d

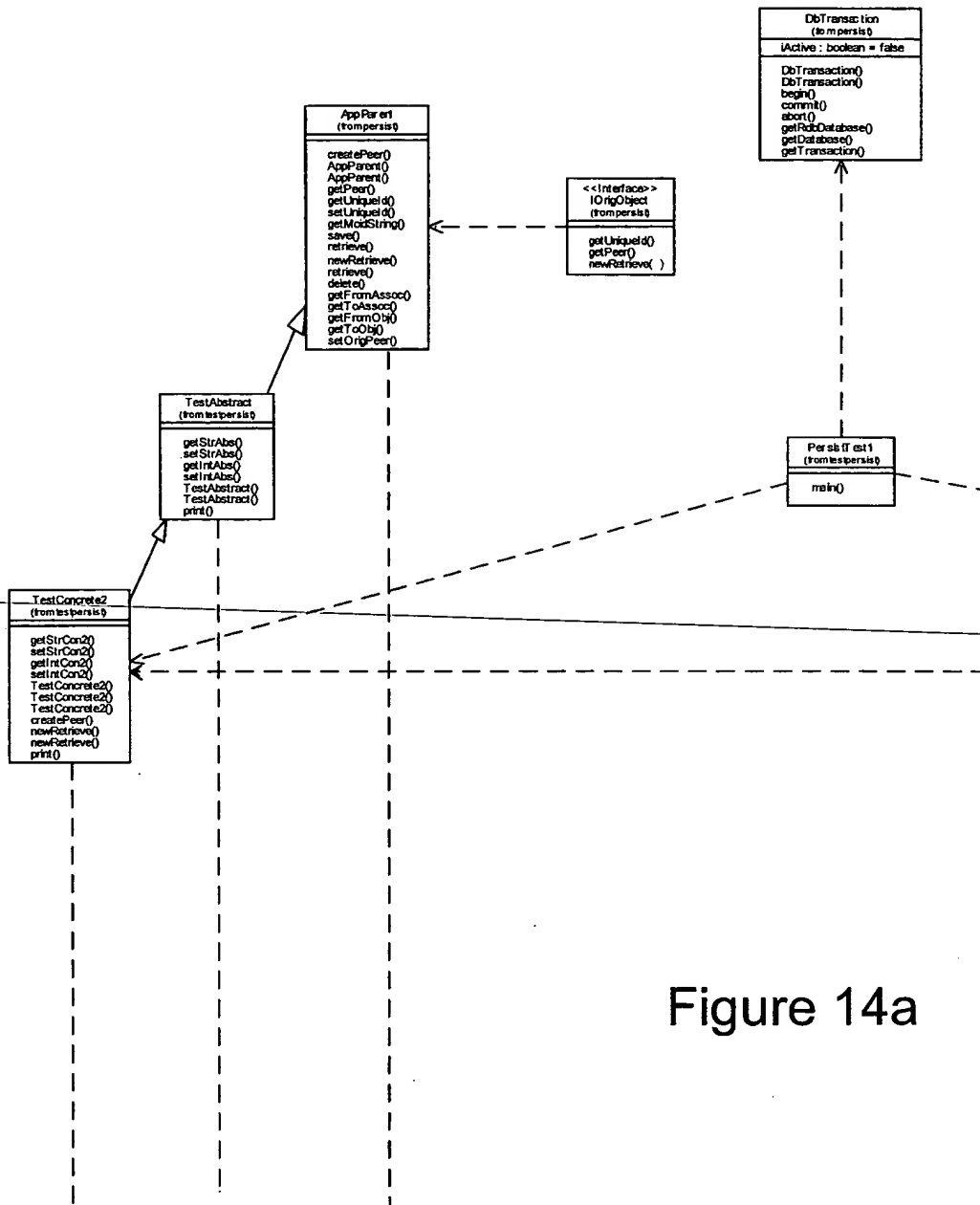


Figure 14a

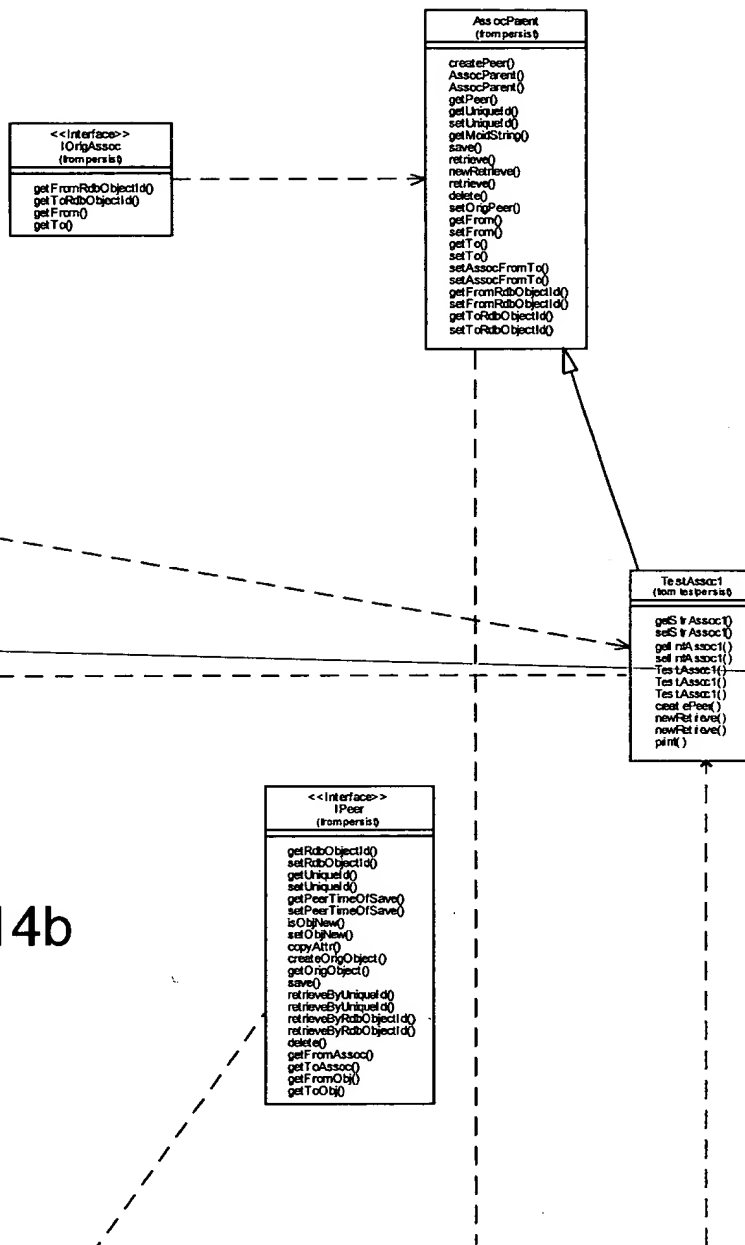


Figure 14b

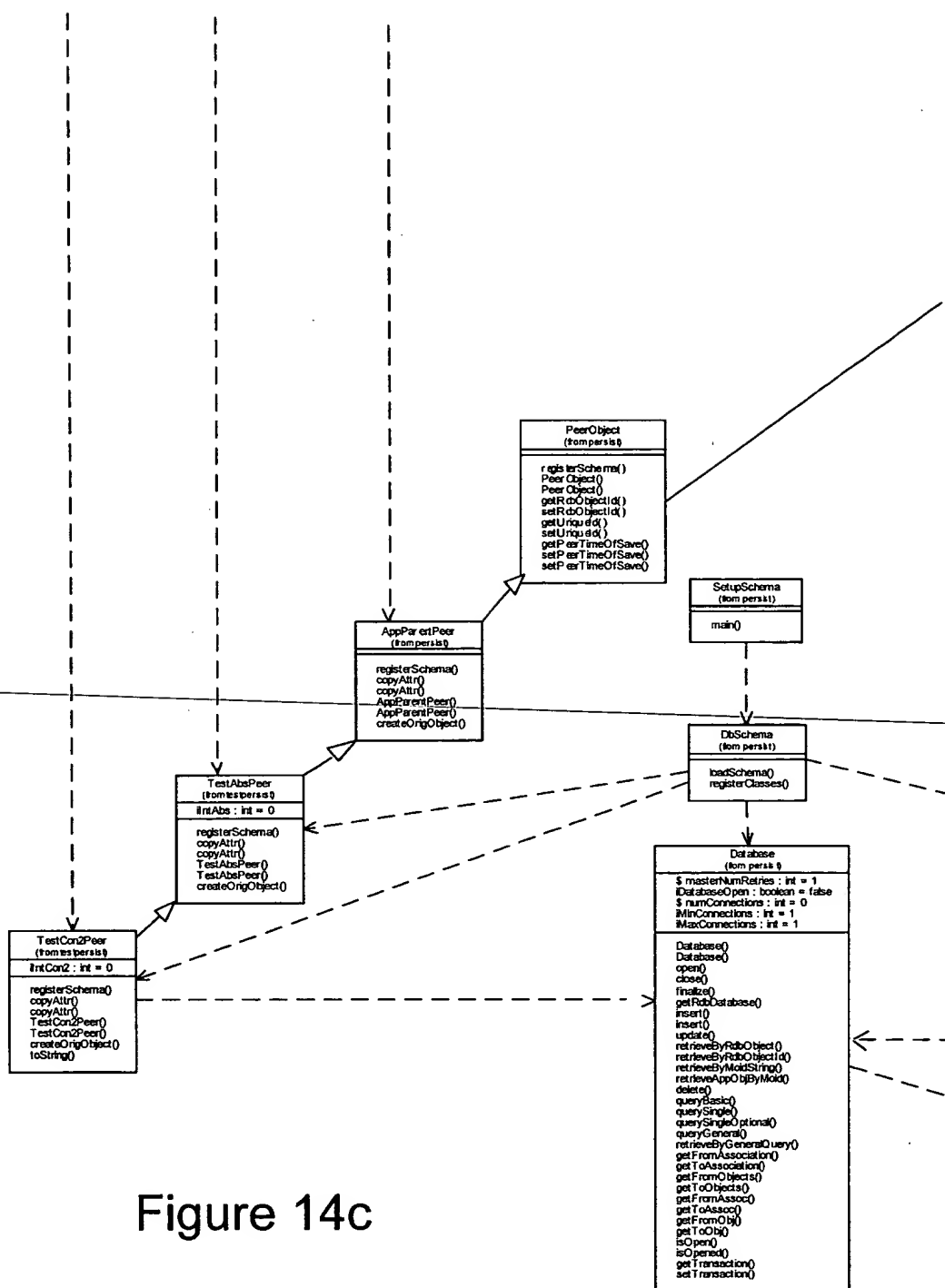


Figure 14c

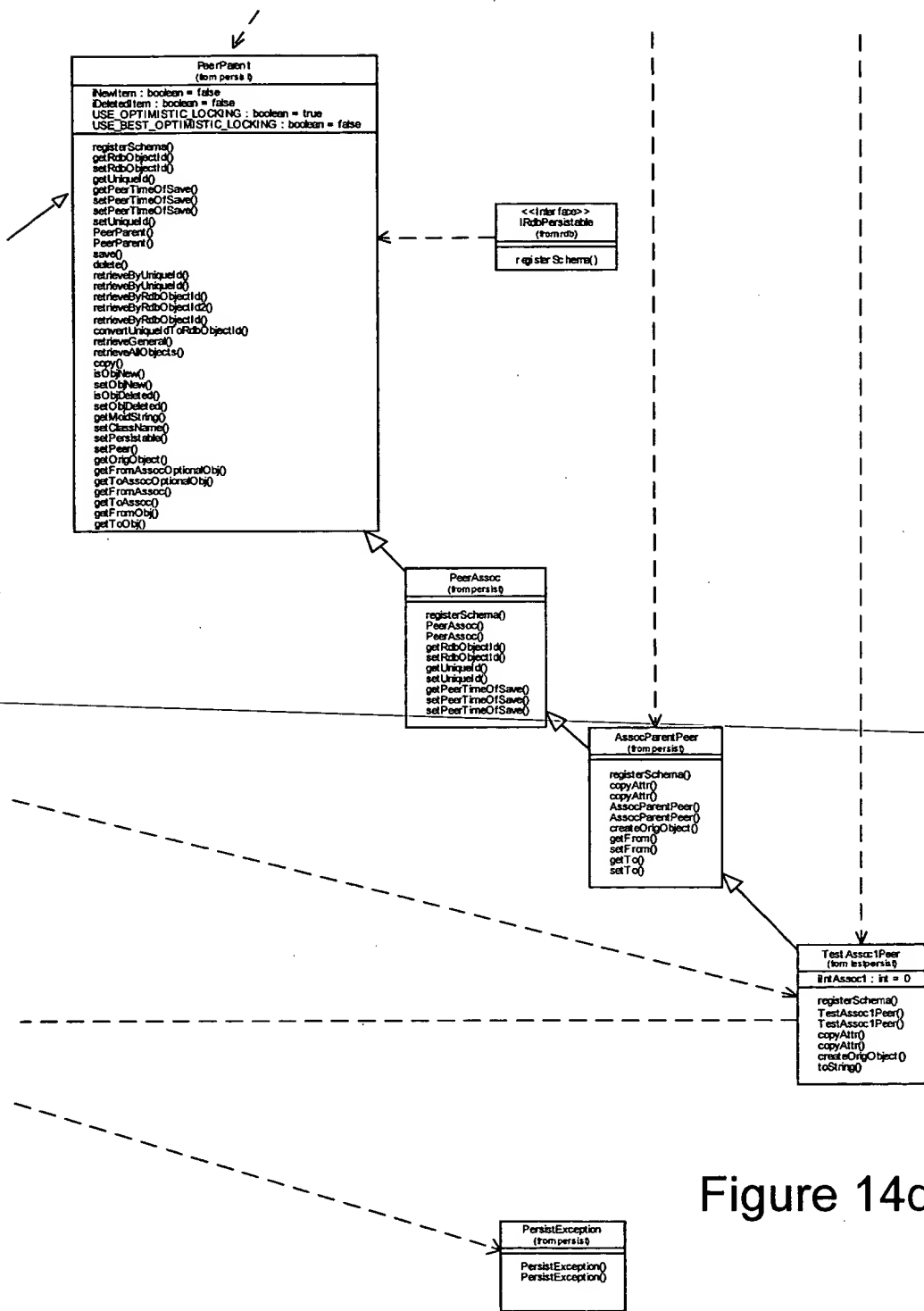
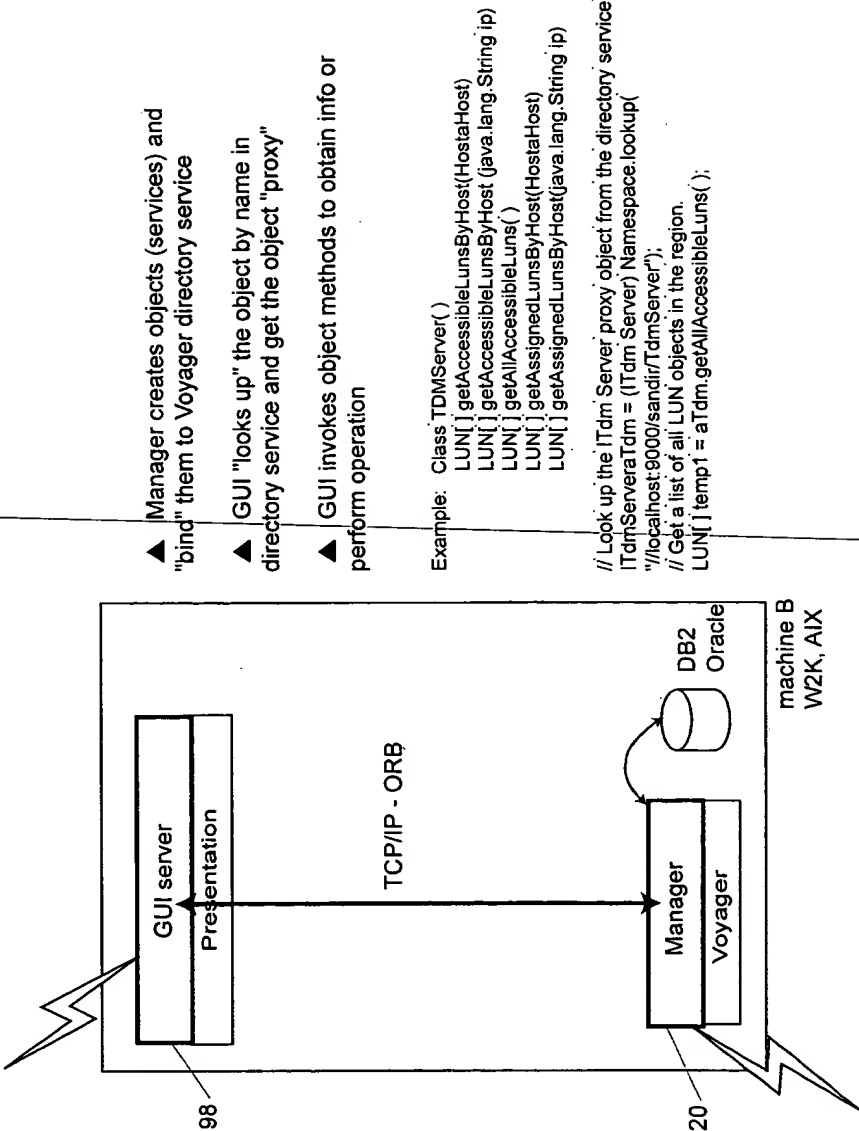


Figure 14d

GUI (server) & Manager communication



- ▲ Manager creates objects (services) and "bind" them to Voyager directory service
- ▲ GUI "looks up" the object by name in directory service and get the object "proxy"
- ▲ GUI invokes object methods to obtain info or perform operation

Example: Class TDMServer()
LUN[] getAccessibleLunsByHost(HostaHost)
LUN[] getAccessibleLunsByHost (java.lang.String ip)
LUN[] getAllAccessibleLuns()
LUN[] getAssignedLunsByHost(HostaHost)
LUN[] getAssignedLunsByHost(java.lang.String ip)

// Look up the ITdm Server proxy object from the directory service
ITdmServerTdm = (ITdm Server) Namespace.lookup(
"localhost:9000/sandir/TdmServer");
// Get a list of all LUN objects in the region.
LUN[] temp1 = aTdm.getAllAccessibleLuns();

Figure 15

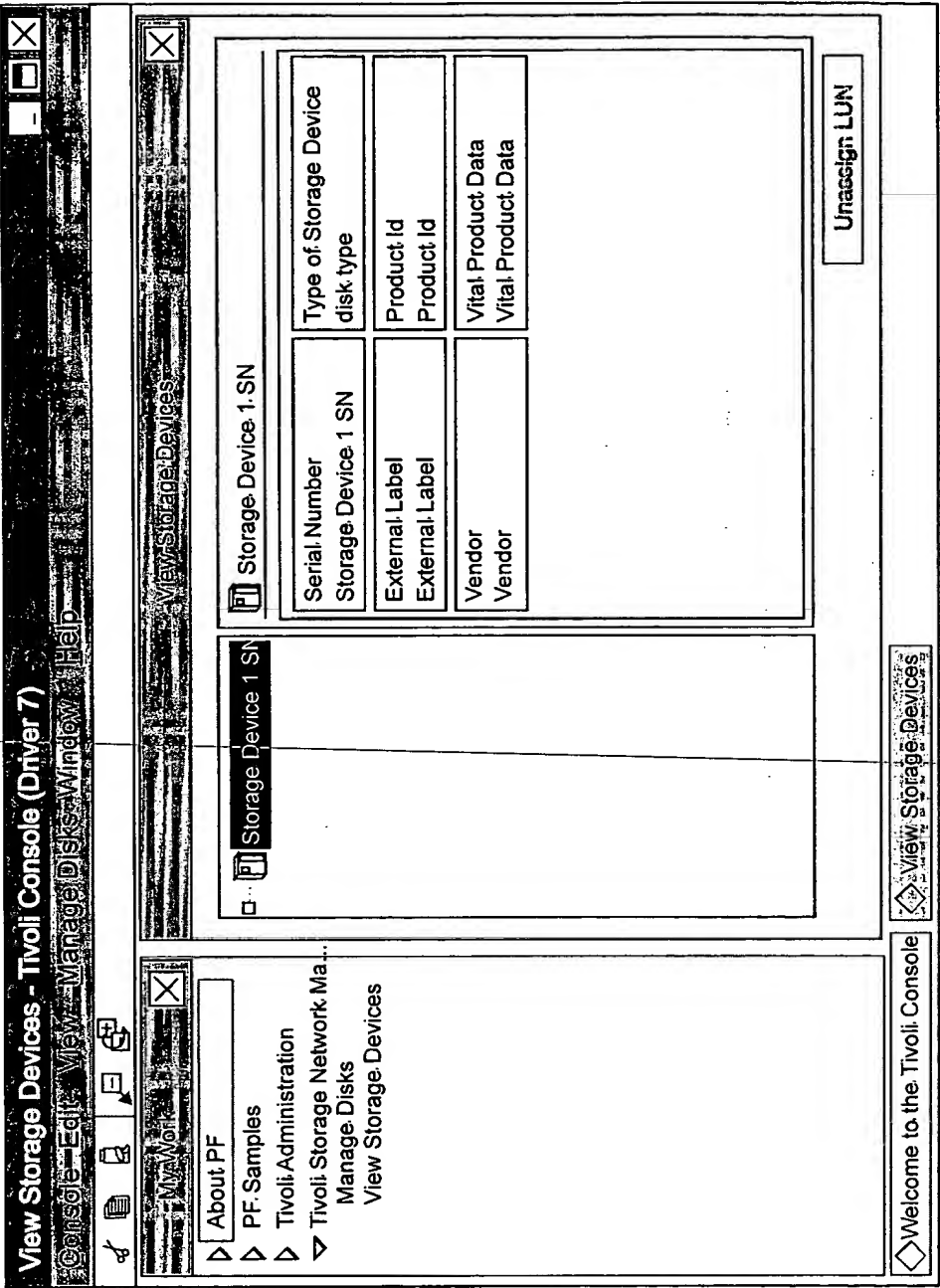


Figure 16

FOOT" 2322660

102

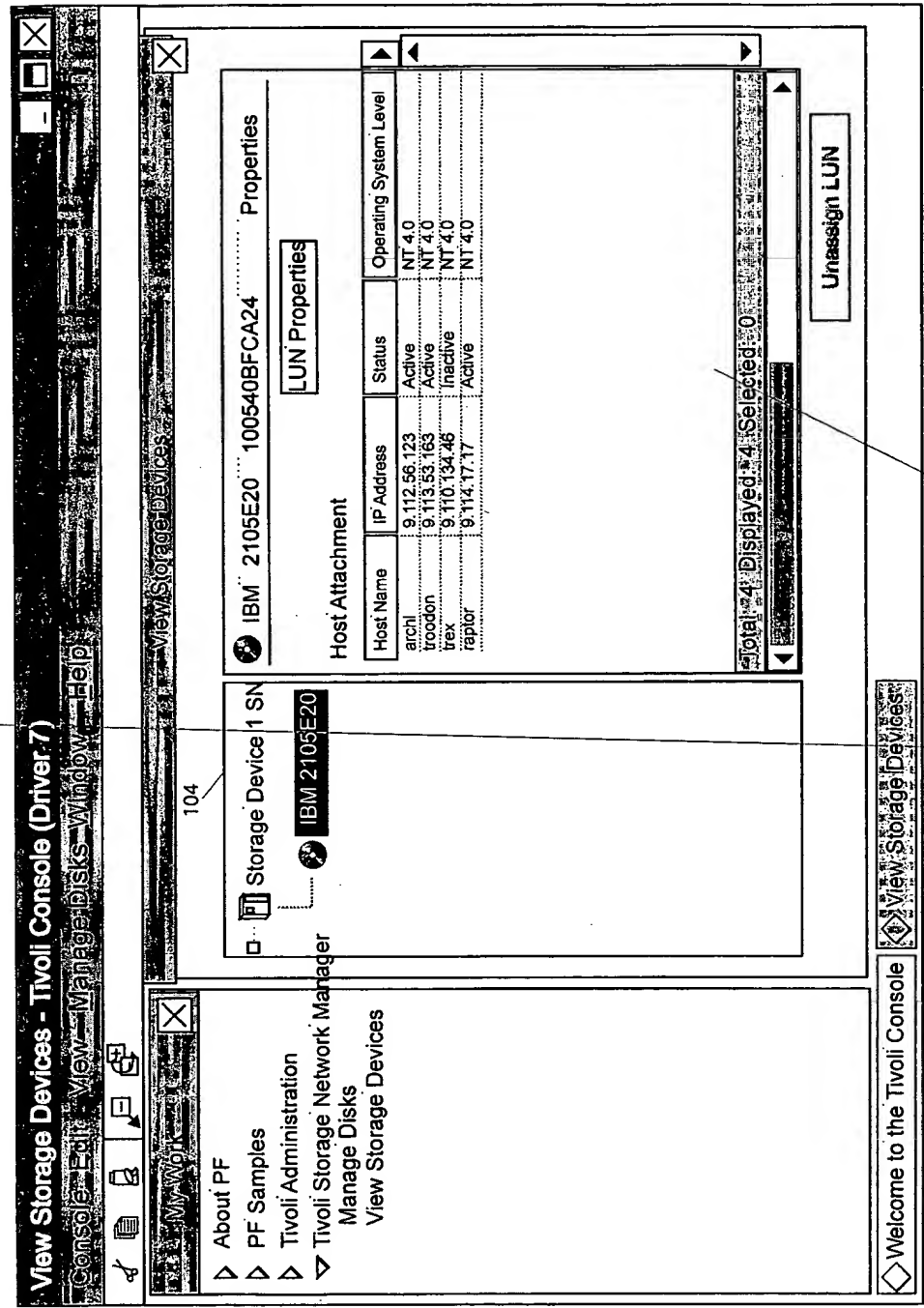


Figure 17

106

108

Manage Disks - Tivoli Console (Driver 7)
Console Edit View Manage Disks Window Help
Manage Disks

archi
troodon
trex
raptor

Host IP Address is 9.112.56.123
archi Properties

Accessible LUNs

Capacity In MBs	Vendor	Product	Revision	Unit Number	Status	Assigned To
4875	UNISYS	006073ST191	1901	LAC86200		
10500	UNISYS	006073ST191	1901	LAD88390		
22345	IBM	2105E20	1005	40BFCA20		
22345	IBM	2105E20	1005	40CFCA20		
22345	IBM	2105E20	1005	40BFCA34		
22345	IBM	2105E20	1005	40DFCA34		
22345	IBM	2105E20	1005	40BFCA25		
22345	IBM	2105E20	1005	40CFCA25		
8520	EMC	SYMMETRIX	5285	370127202		
4875	EMC	SYMMETRIX	5285	370281202		
4875	SEAGATE	ST1971FC	CC95	LAM14520		
10500	UNISYS	39-BYTES-LO	901L	AC68803	Assigned	
22345	UNISYS	39-BYTES-LO	1901	?	Assigned	
22345	IBM	2105E20	1005	40BFCA24	Unassign P...	
8520	IBM	2105E20	1005	40CFCA24	Assigned	
	EMC	SYMMETRIX	5285	37012720C	Assigned	

Total 19 displayed, 19 selected

Welcome to the Tivoli Console

View Storage Devices

Manage Disks

Assign LUN

Unassign LUN

Reassign LUN

- 112a
- 112b
- 112c
- 112d

110

114

Figure 18

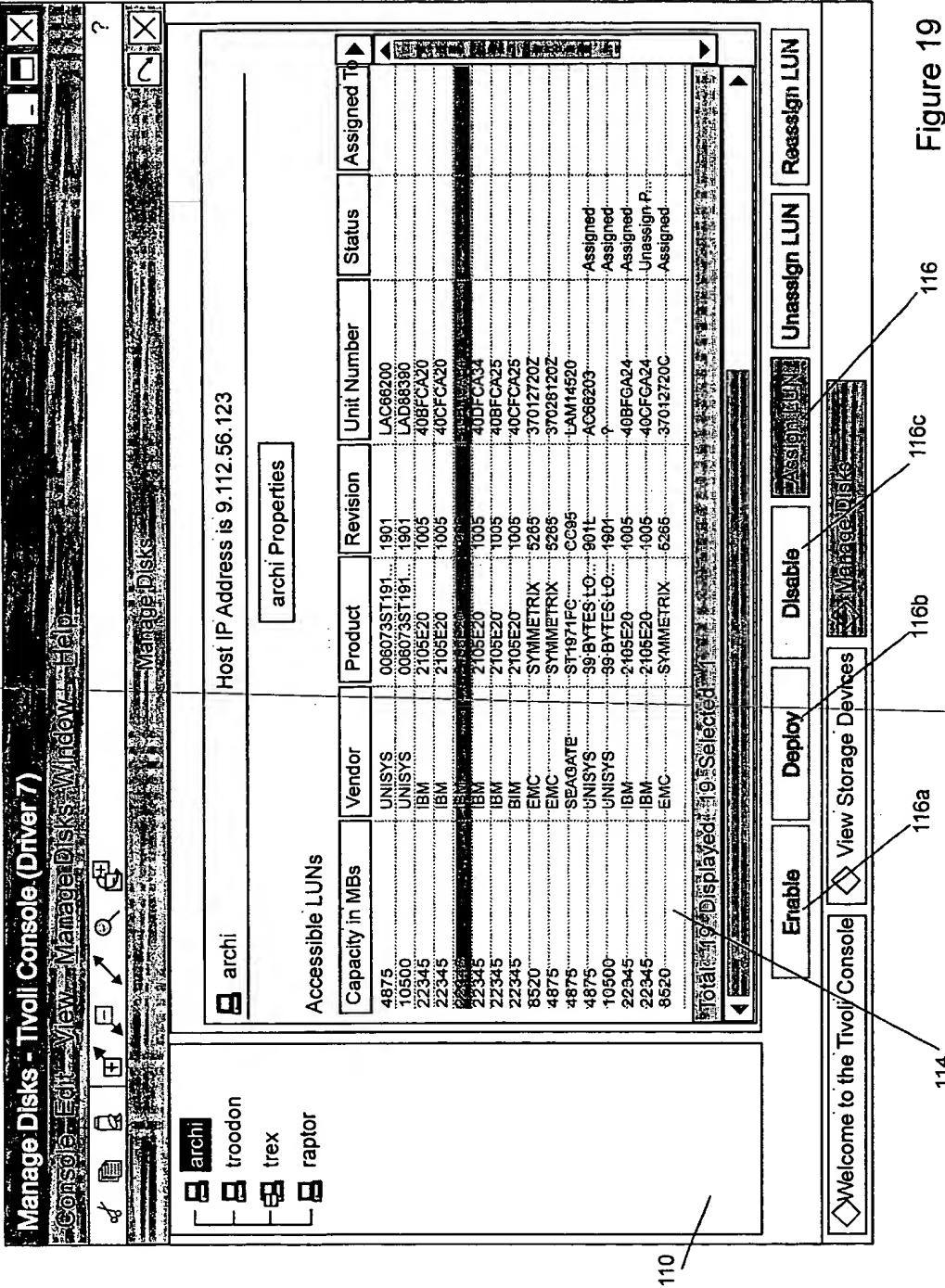


Figure 19

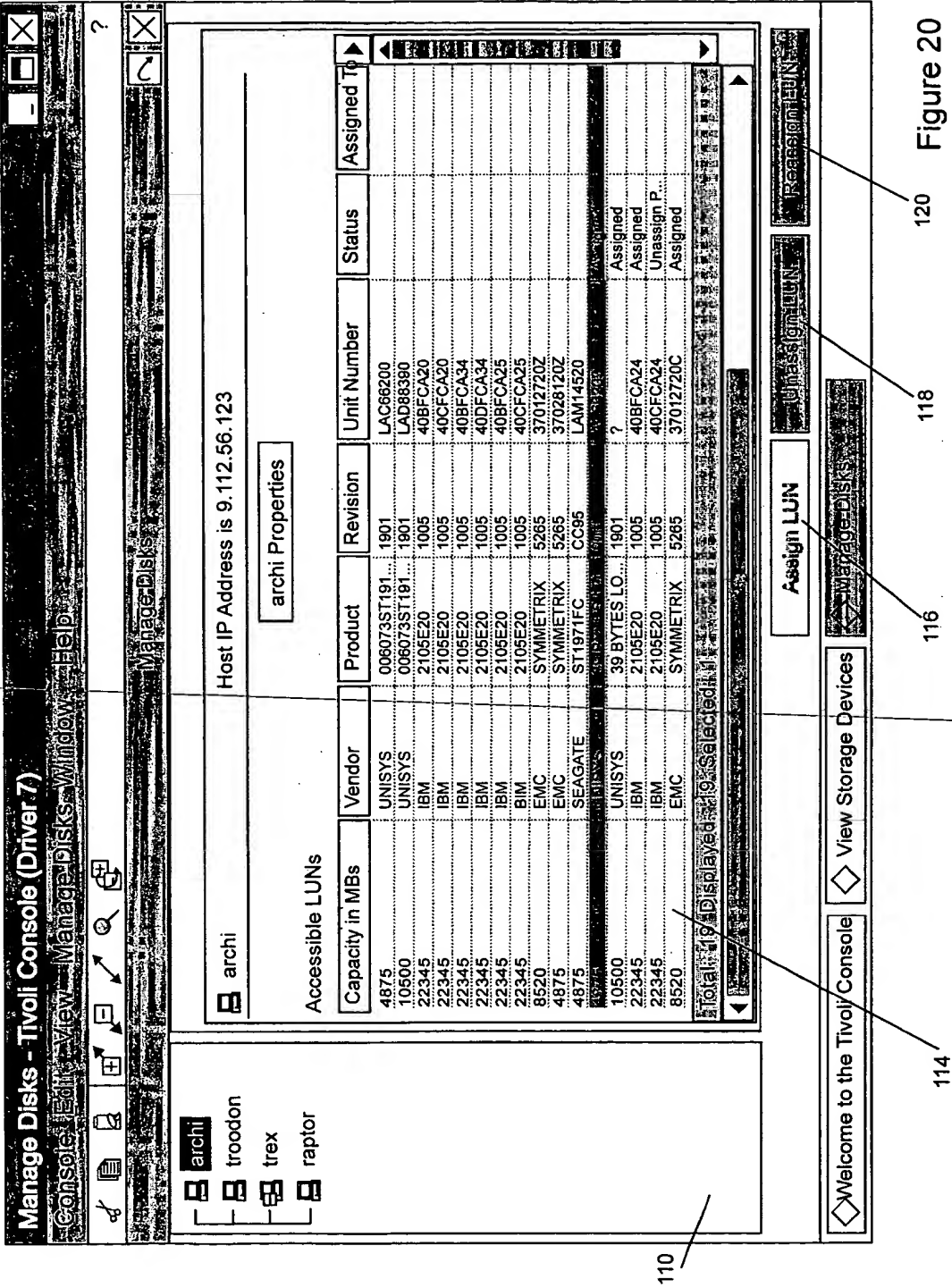


Figure 20

Clearing the Filter

Manage Disks - Tivoli Console (Driver 7)

Console Edit View Manage Disk Window Help

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🔍

archi

troodon

trex

raptor

vega

Host IP Address is 9.112.56.123

Host Properties

Accessible LUNs

Capacity in MBs	Vendor	Product	Revision	Unit Number	Status	Assigned To Other	Logical Unit
22,345	IBM	2105E20	1005	40CFCAC24	Unassign Pending	<no filter>	LU group1
10,500	UNISYS	006073ST1191	1901	LAD88397	Assigned	<no filter>	LU group1
22,345	IBM	2105E20	1005	40BFCAC24	Assigned	<no filter>	LU group1
8,520	EMC	SYMMETRIX	5285	37012720C	Assigned	<no filter>	LU group1
10,500	UNISYS	006073ST1191	1901	LAD88390	Assigned	<no filter>	LU group1
22,345	IBM	2105E20	1005	40BFCAC20	Assigned	<no filter>	LU group1
22,345	IBM	2105E20	1005	40CFCAC34	Assigned	<no filter>	LU group1
22,345	IBM	2105E20	1005	40DFCAC34	Assigned	<no filter>	LU group1
22,345	IBM	2105E20	1005	40BFCAC25	Assigned	<no filter>	LU group1
8,520	EMC	SYMMETRIX	5285	370127202	Assigned	<no filter>	LU group1

Total 10 LUNs Displayed 12 Selected 10

Assign LUN

Unassign LUN

Reassign LUN

Welcome

Manage LUNs

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Figure 21

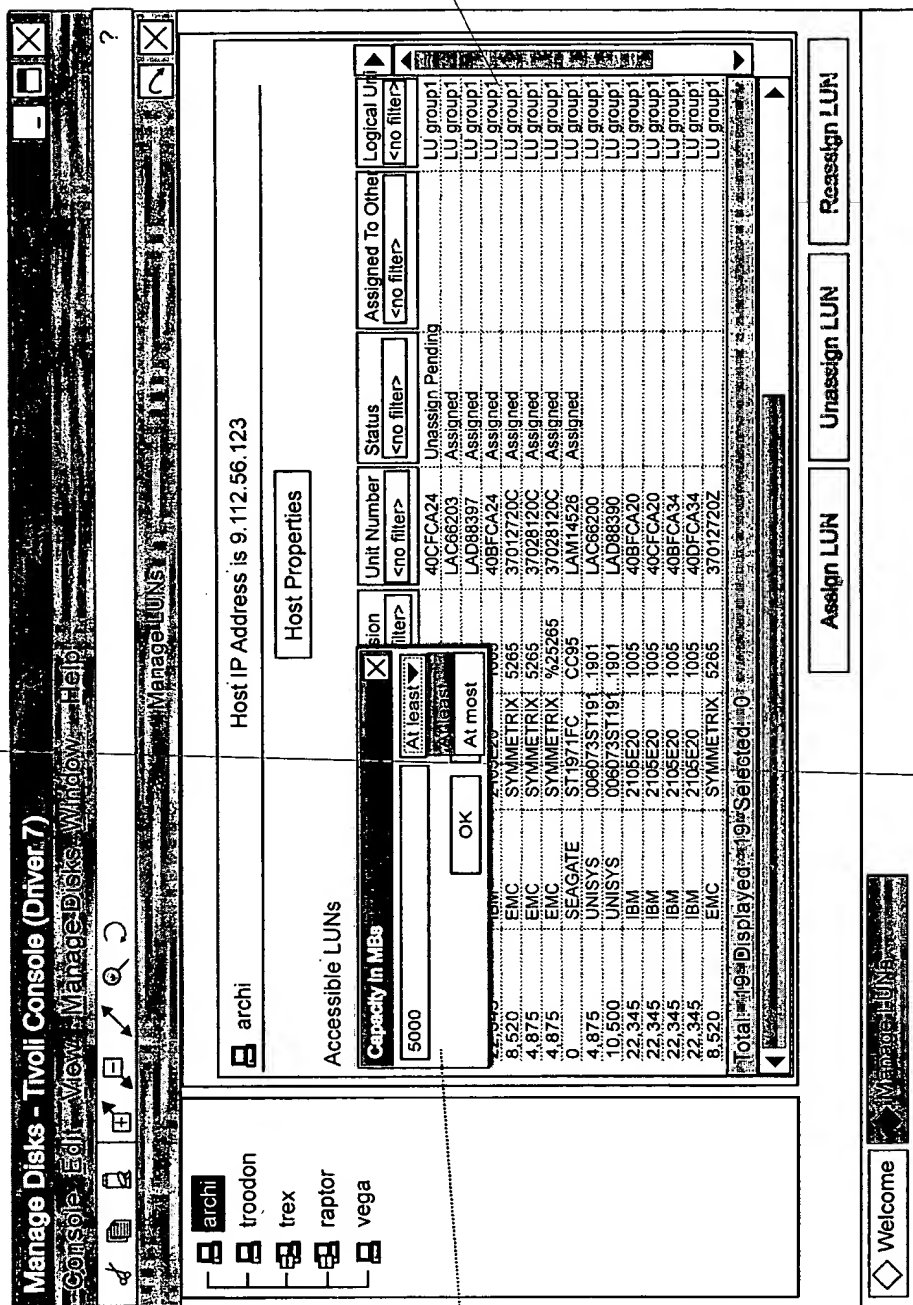


Figure 22

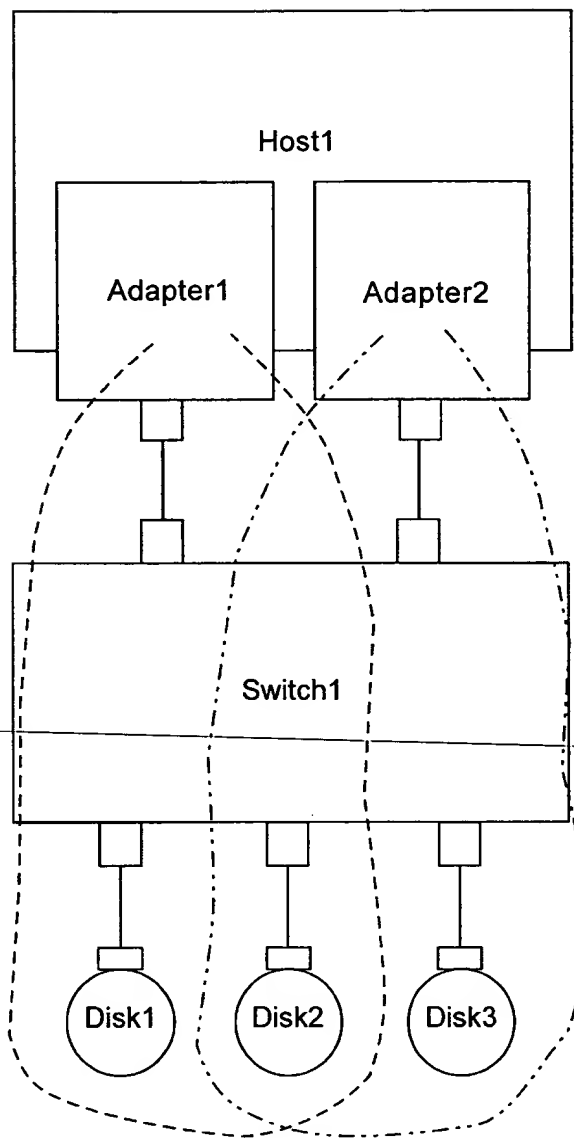


Figure 23

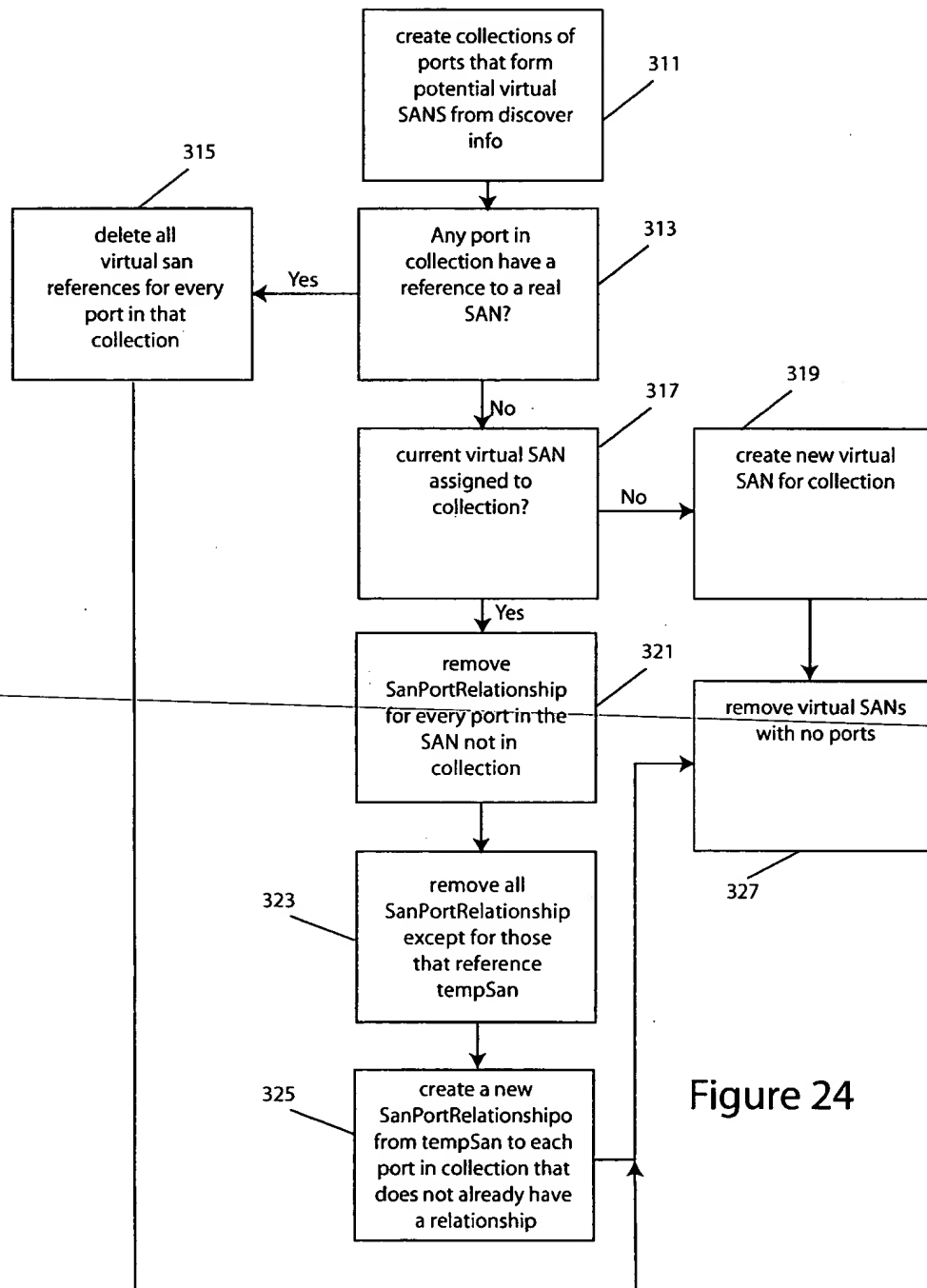


Figure 24

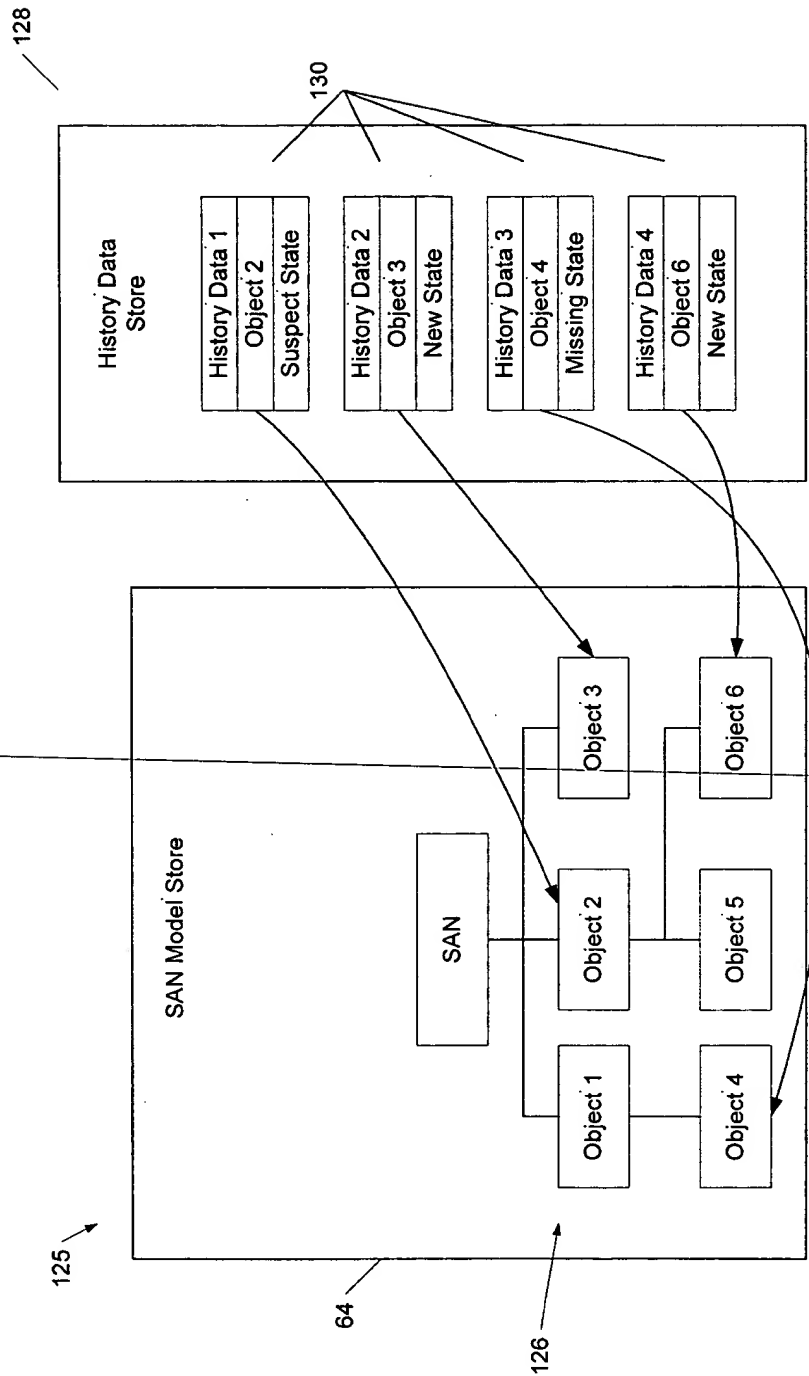


FIGURE 25

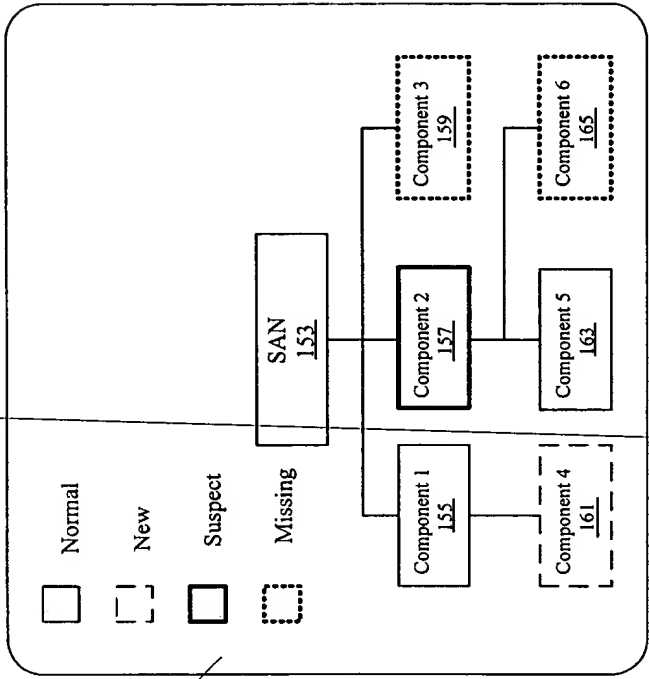


FIGURE 26

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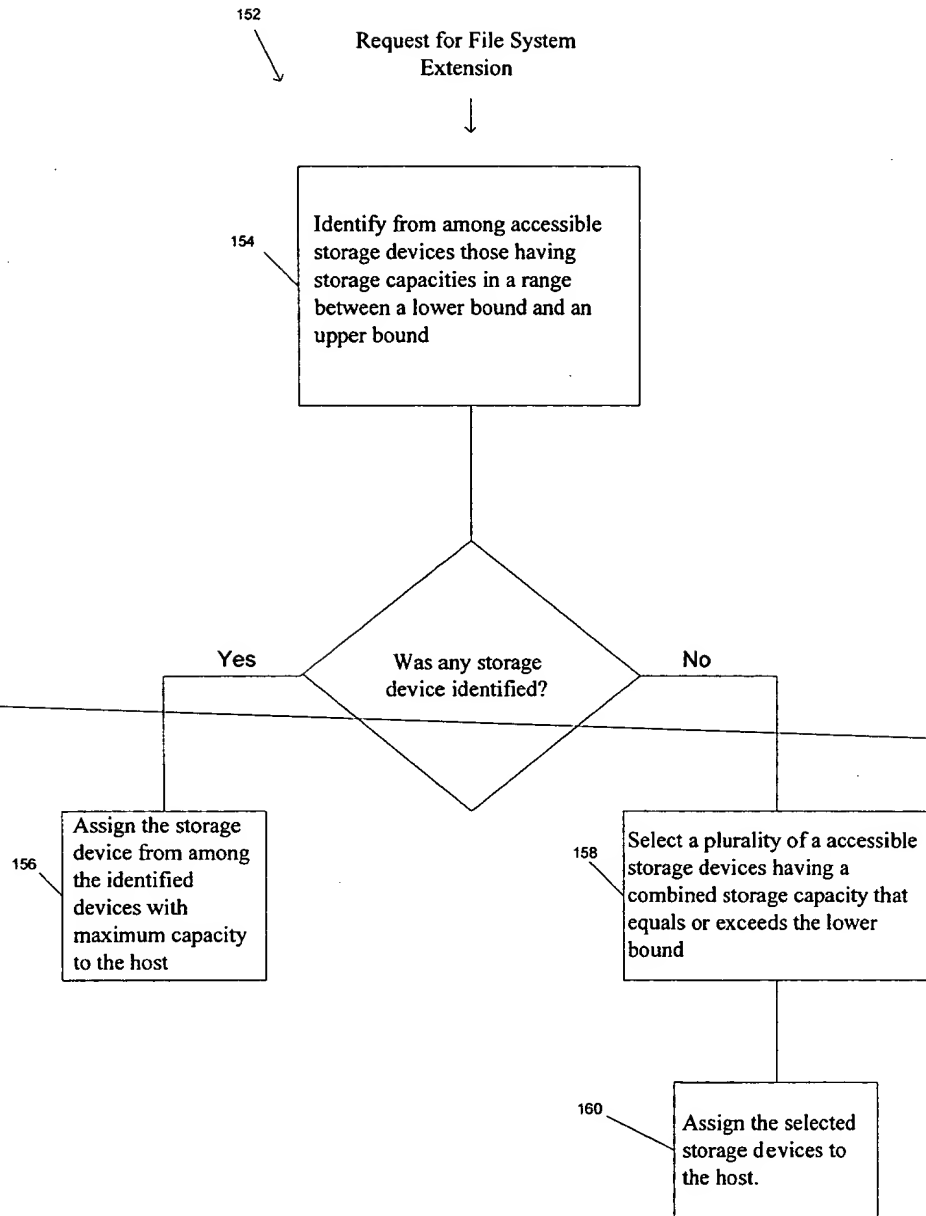
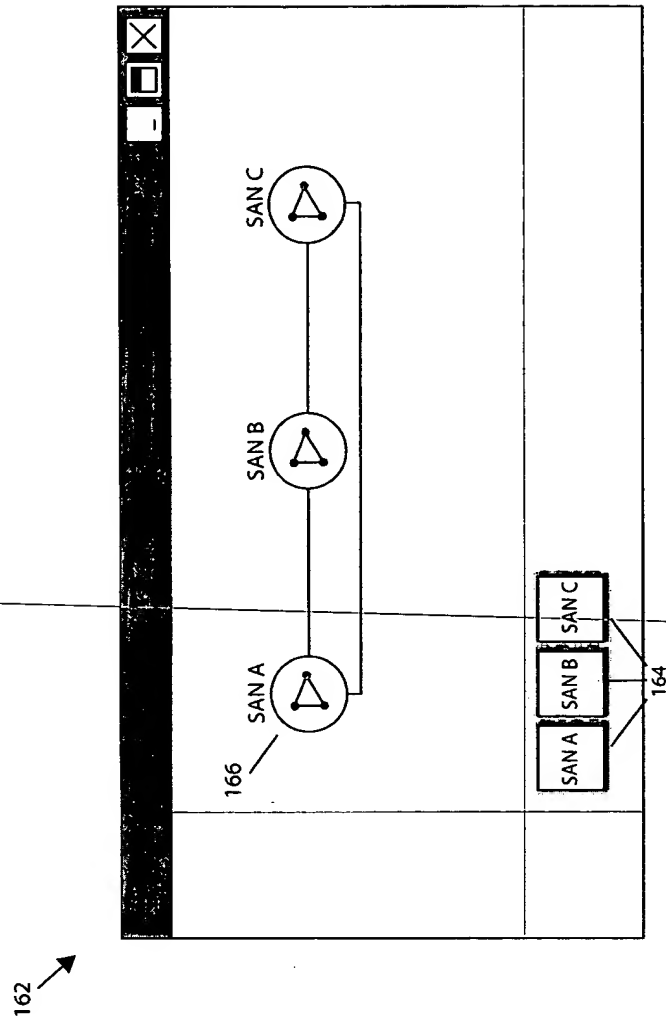


Figure 27



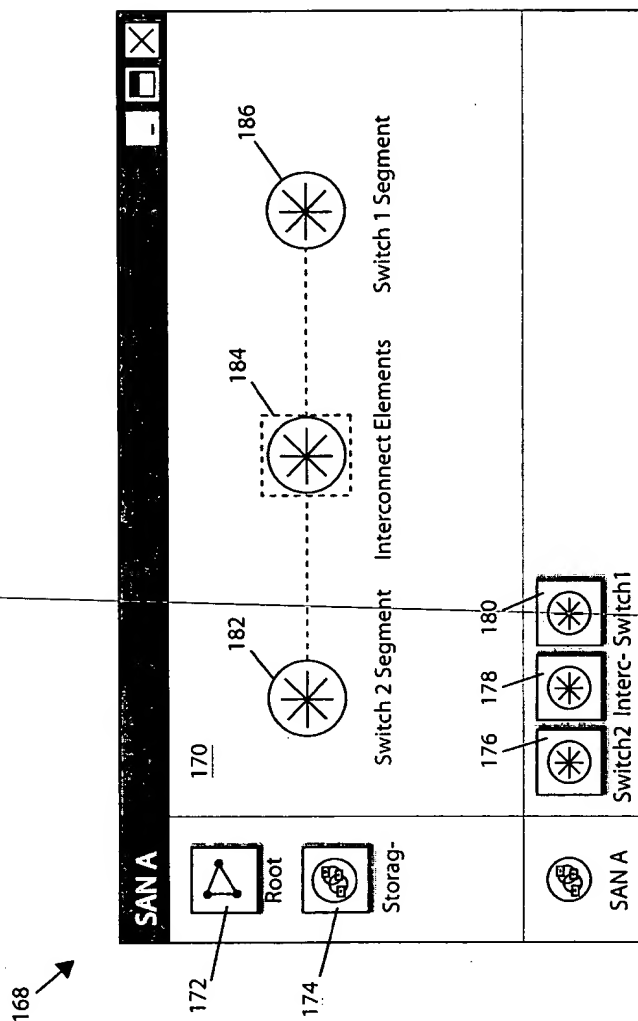


Figure 29

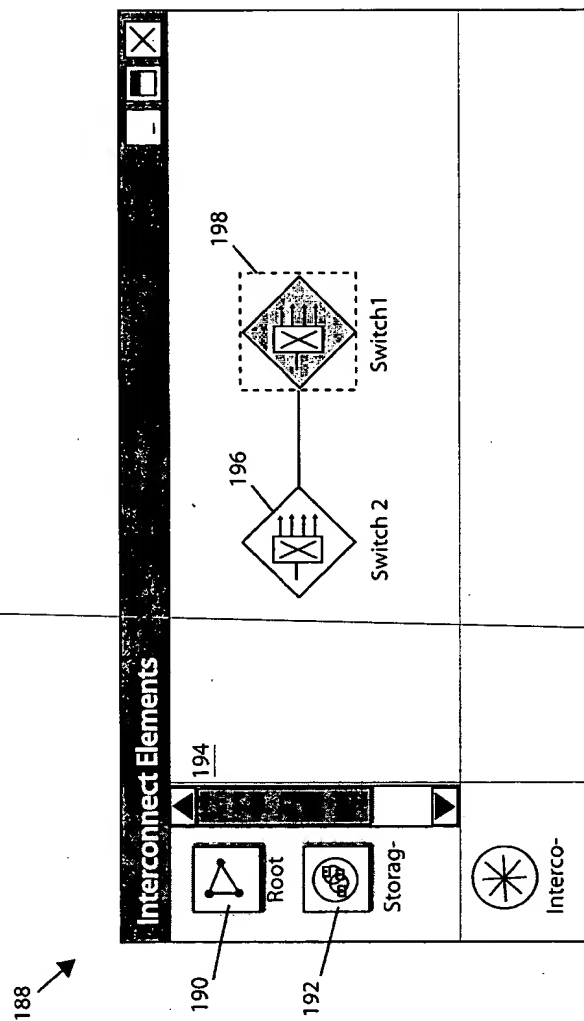


Figure 30

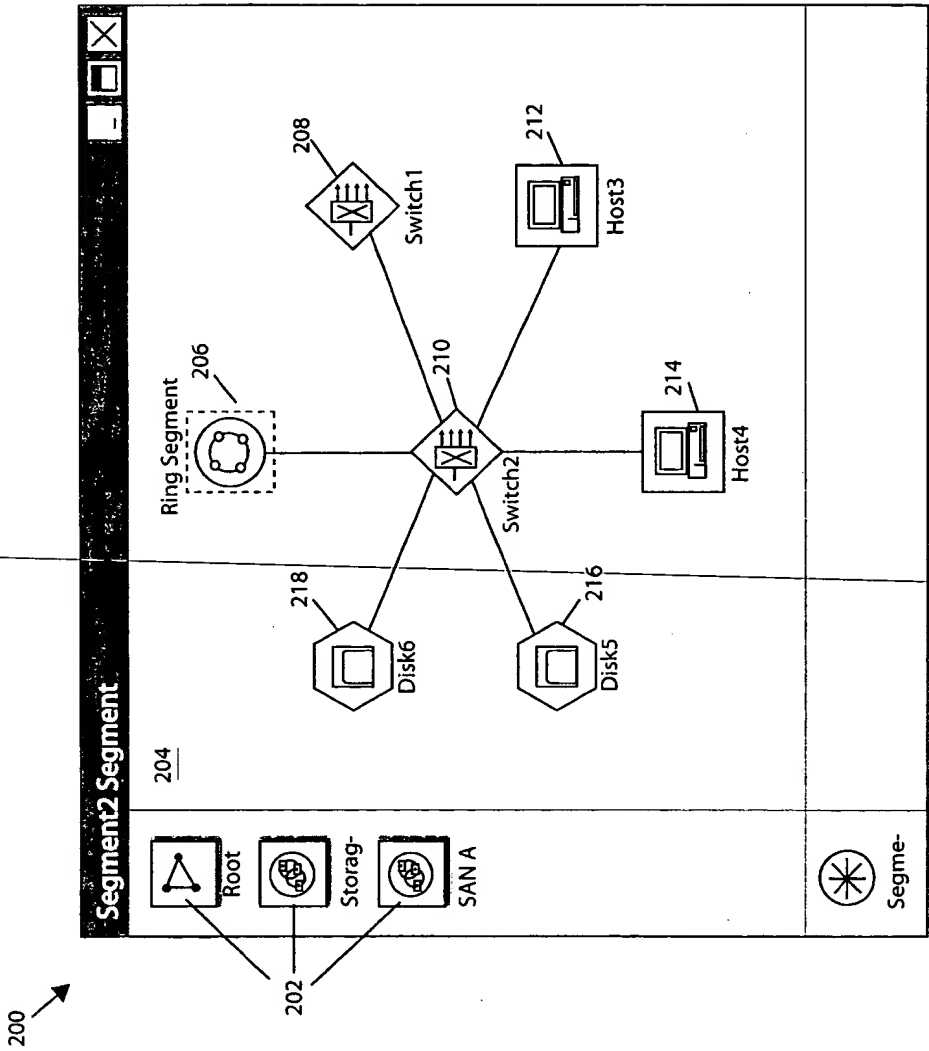


Figure 31

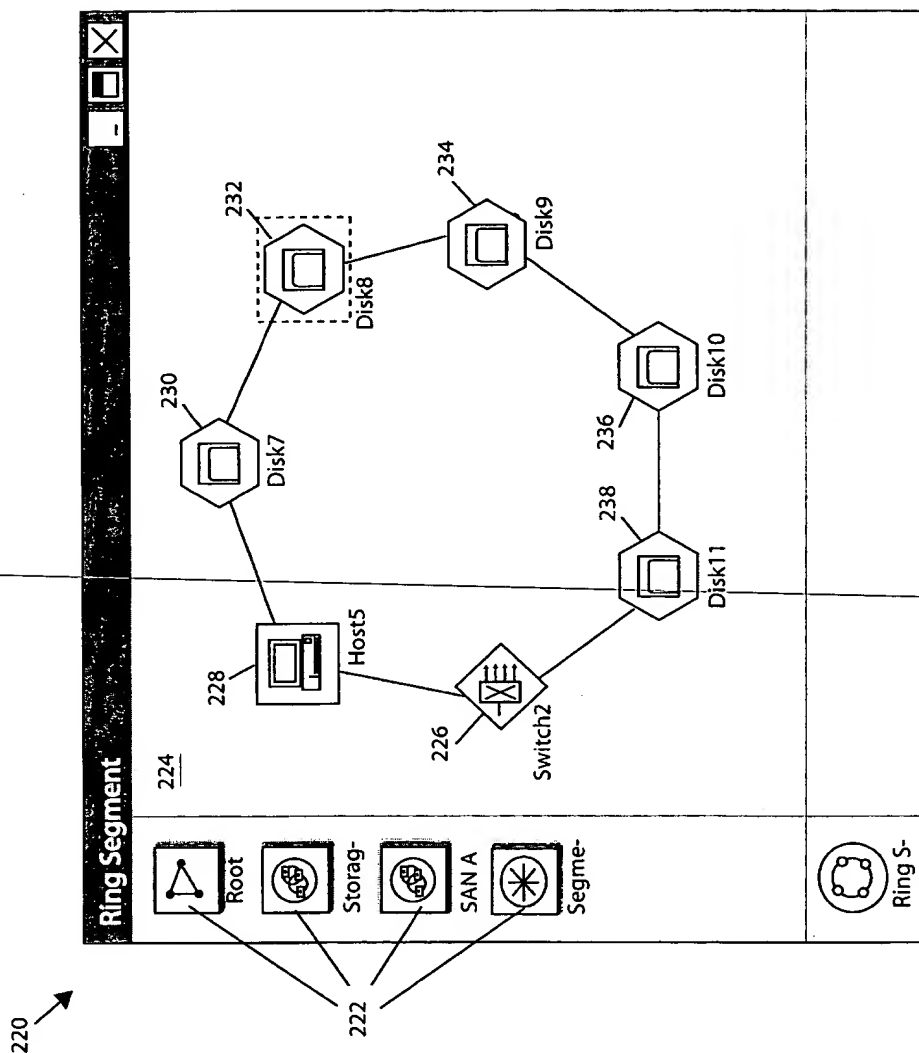


Figure 32

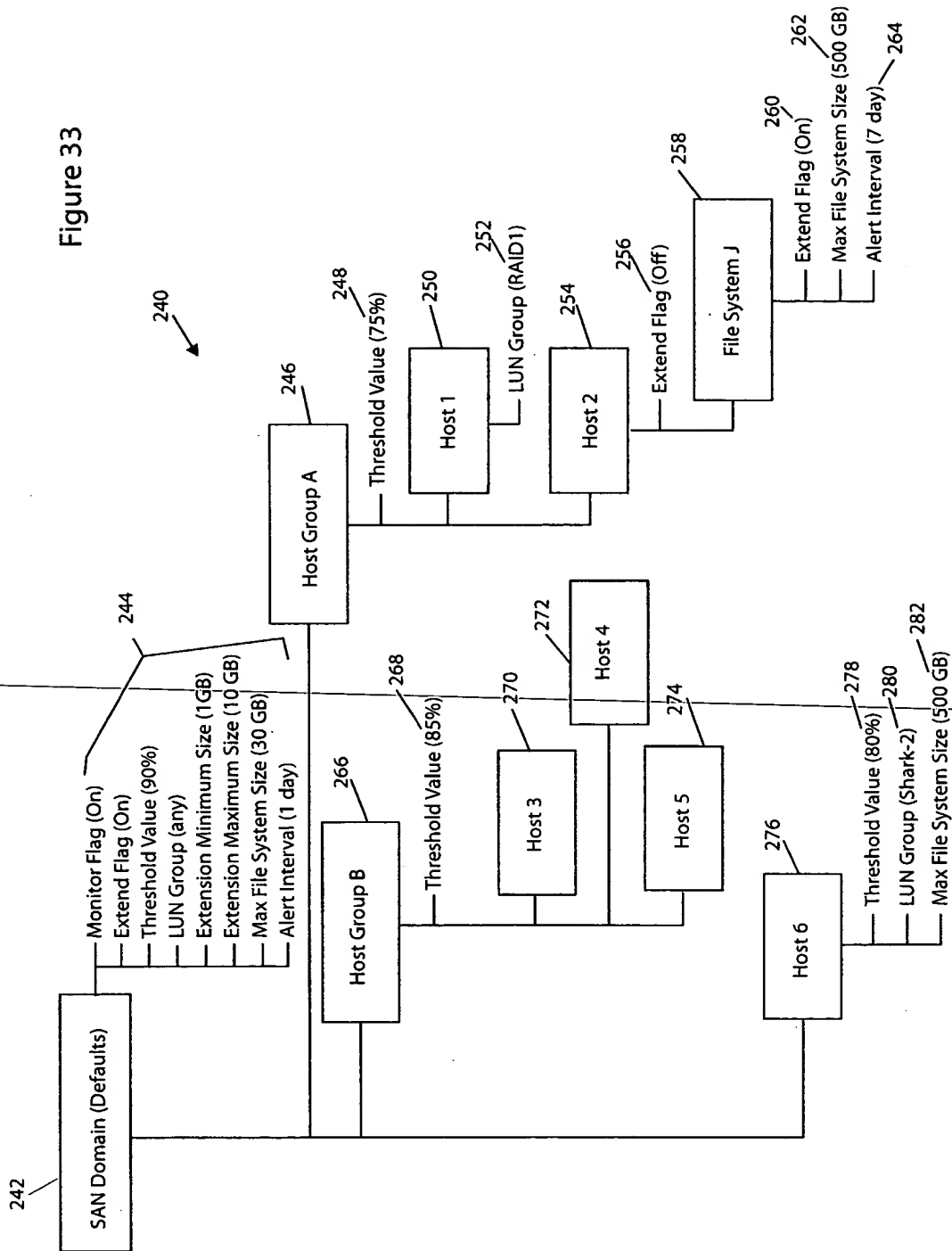
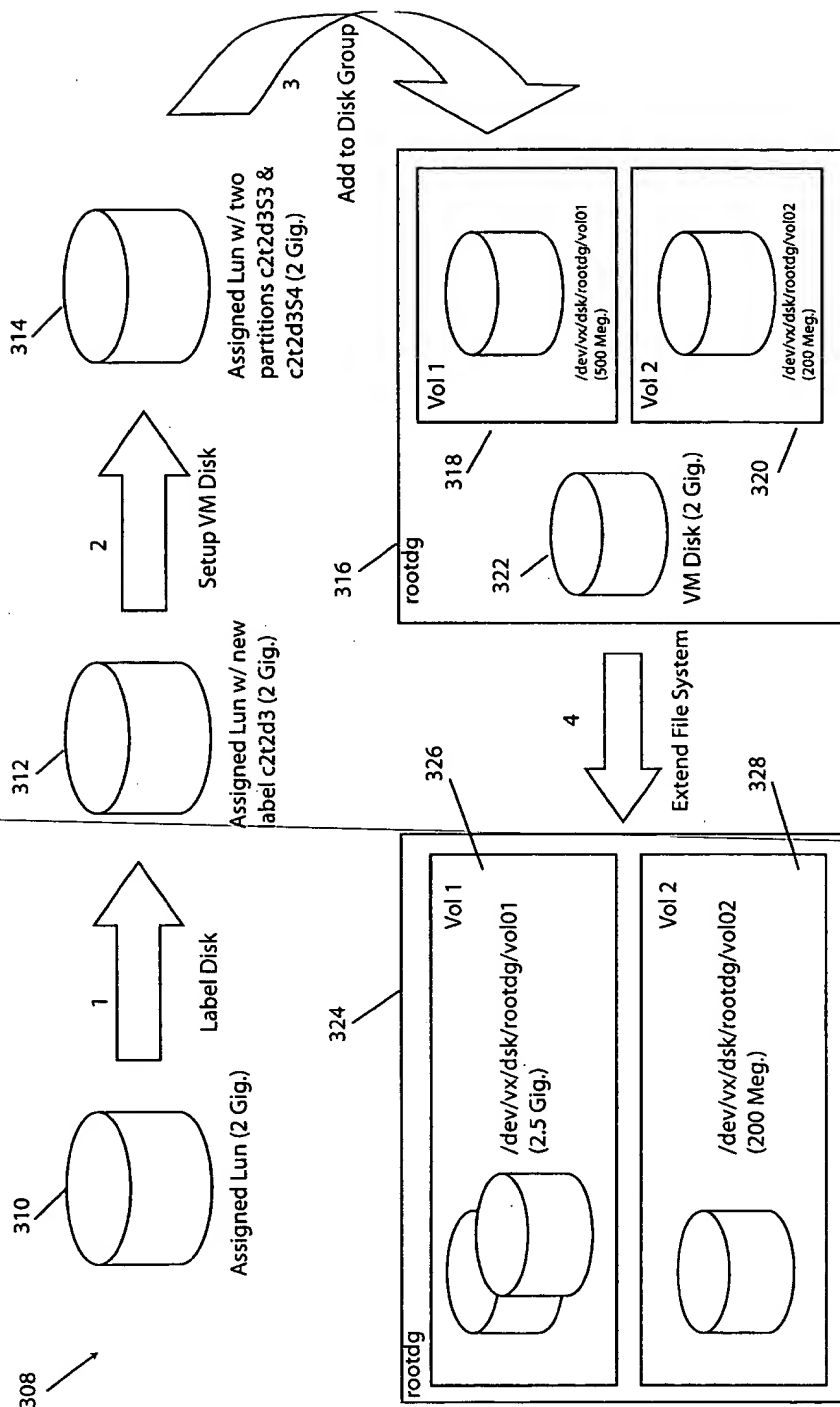




Figure 35



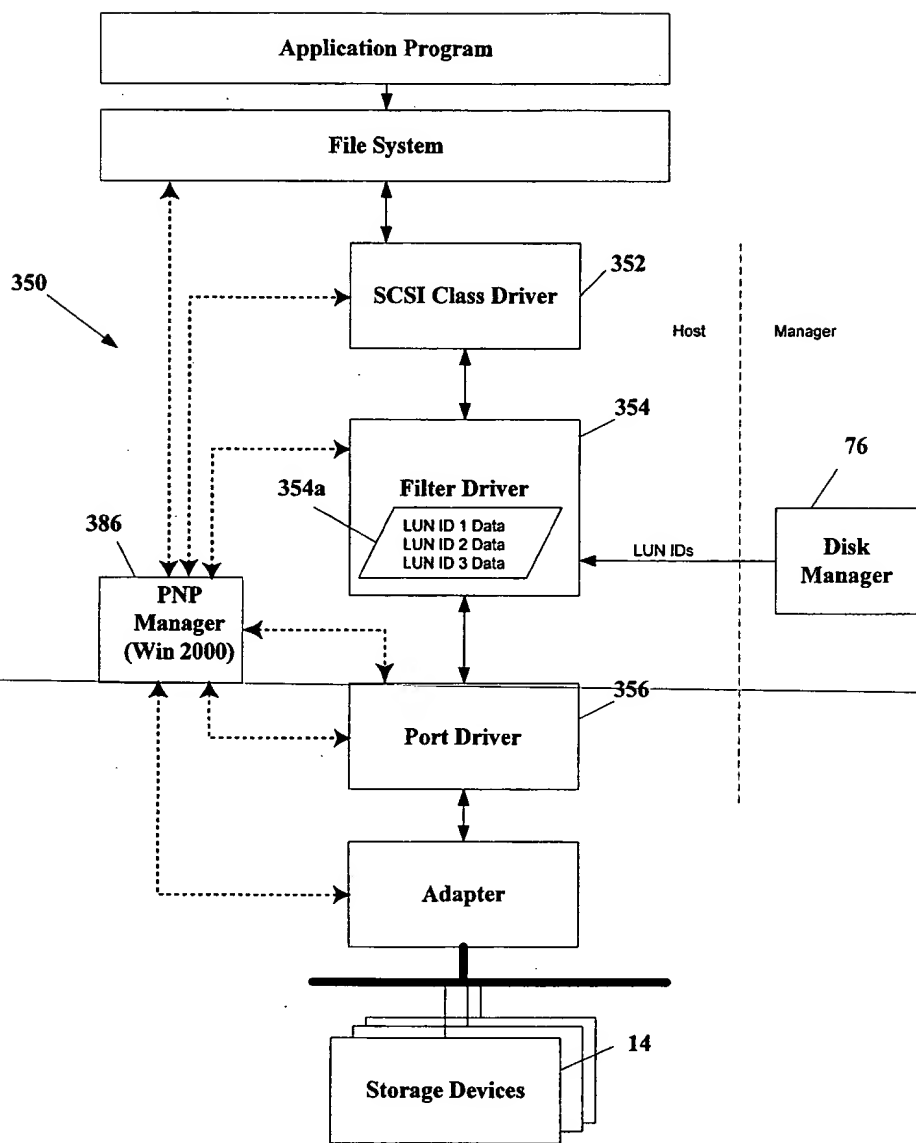
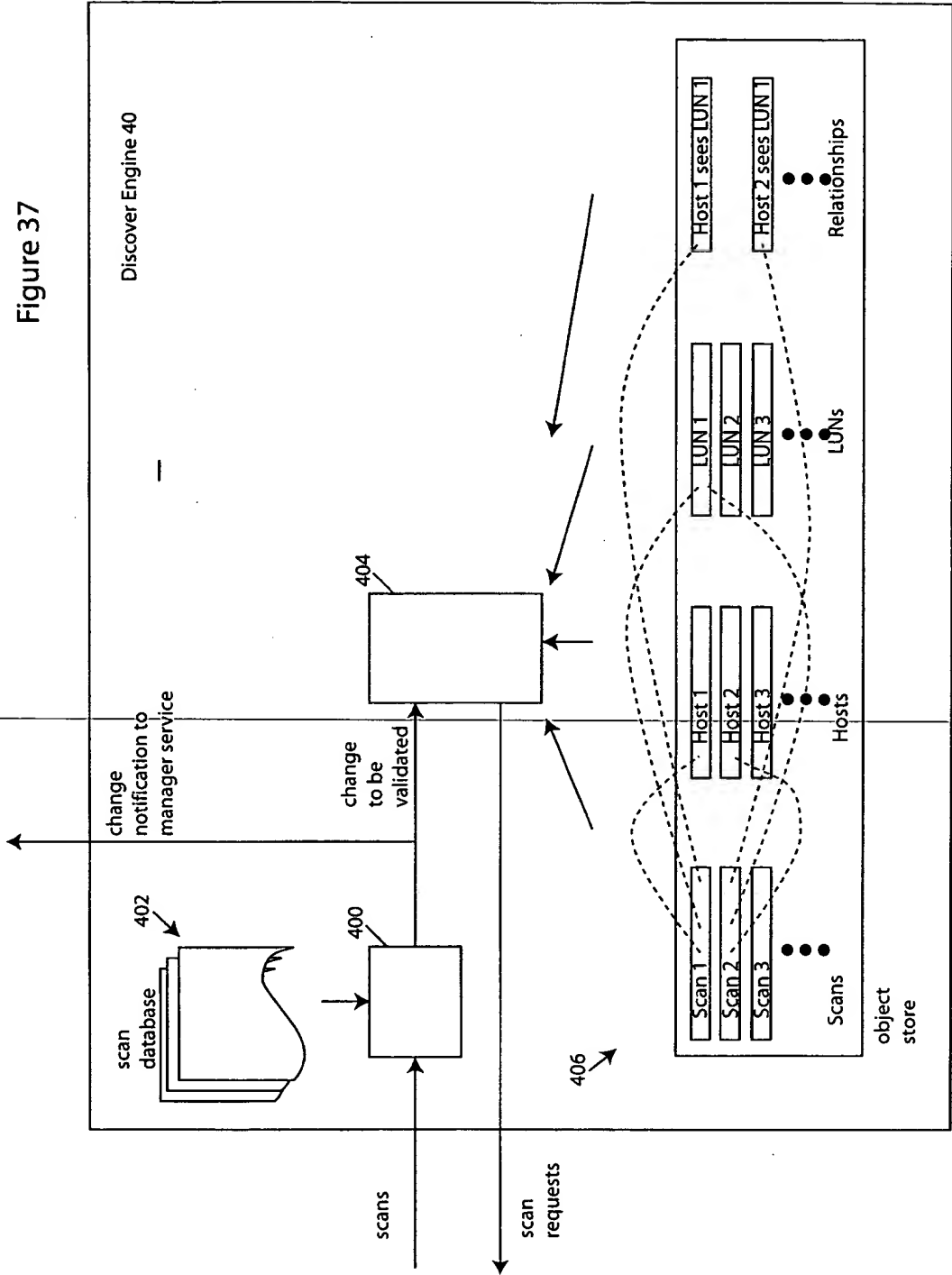


FIGURE 36

Figure 37



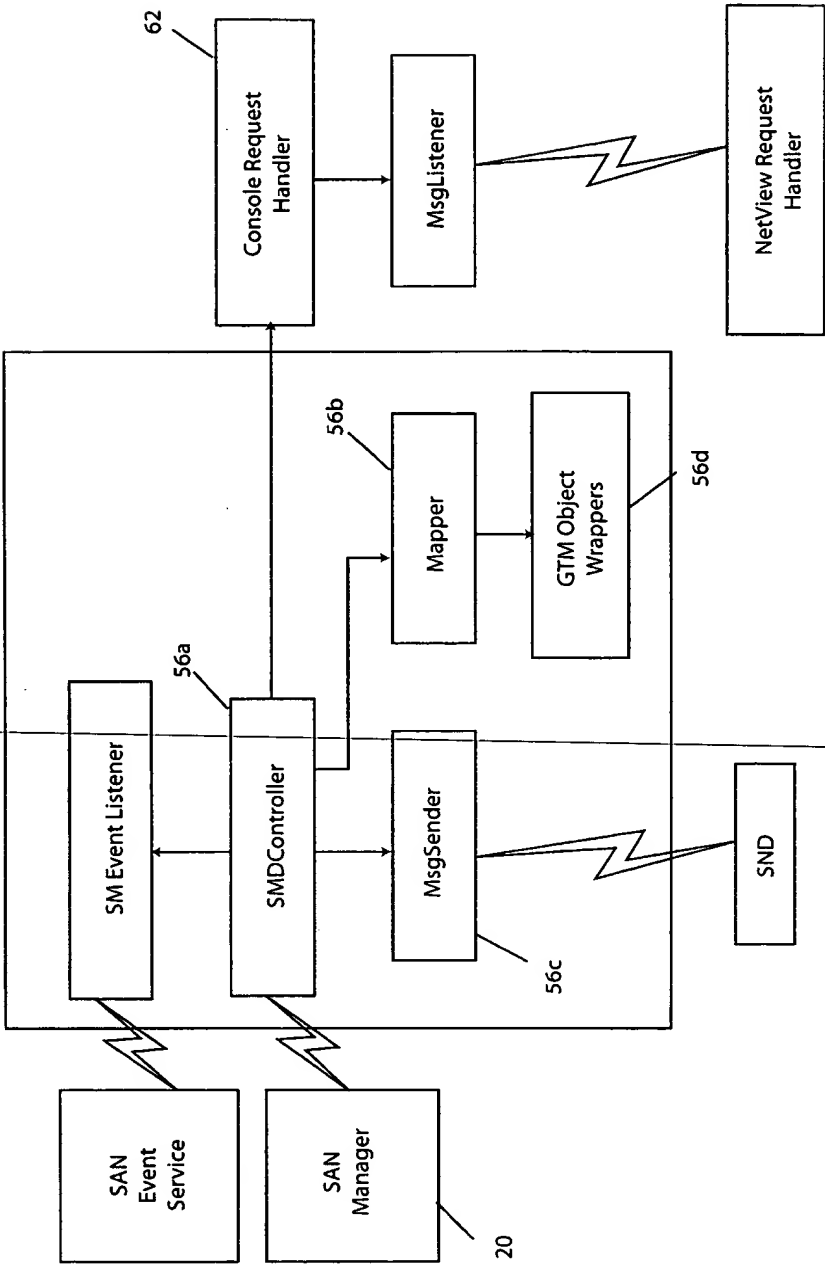


Figure 38

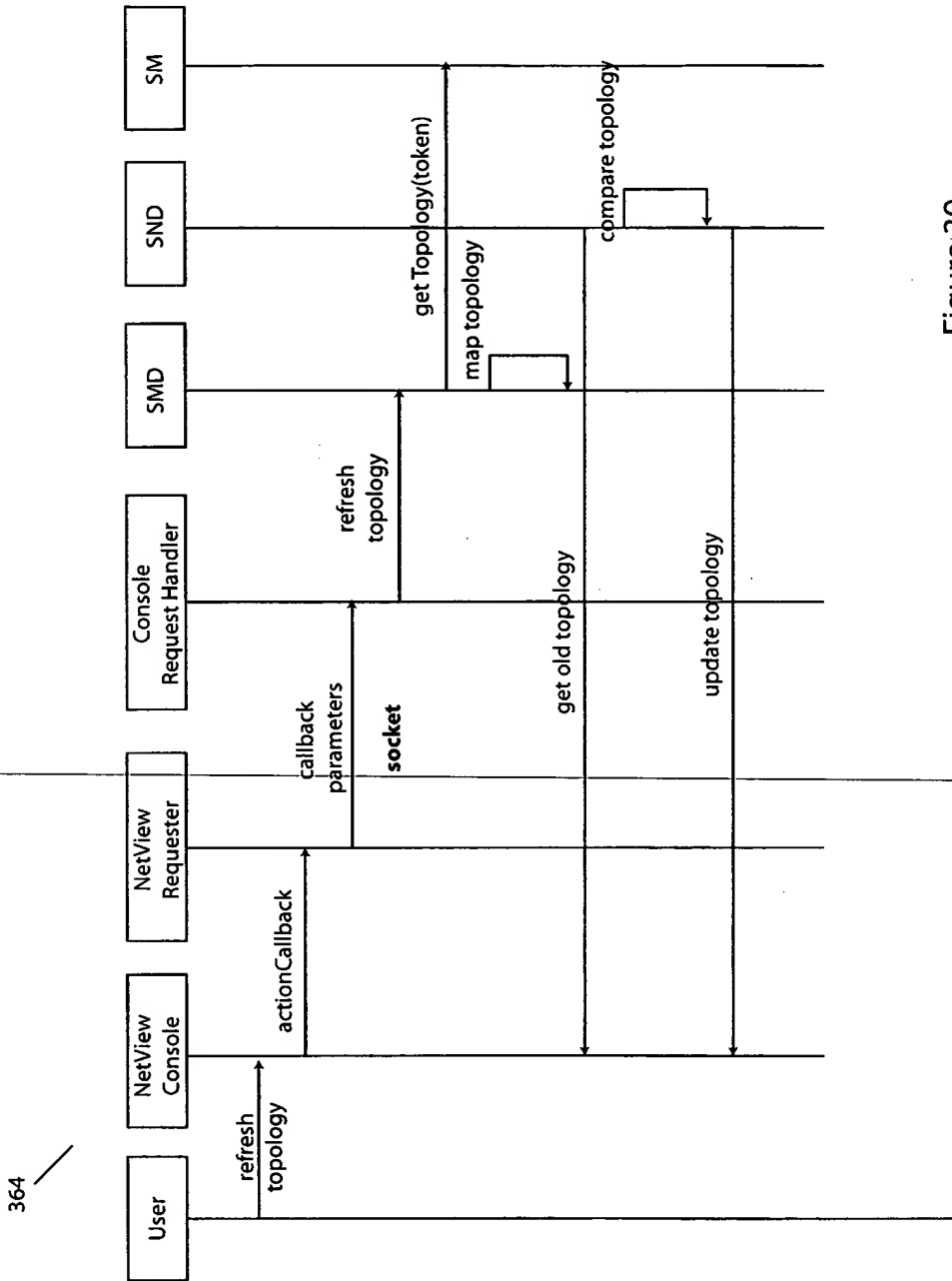


Figure 39

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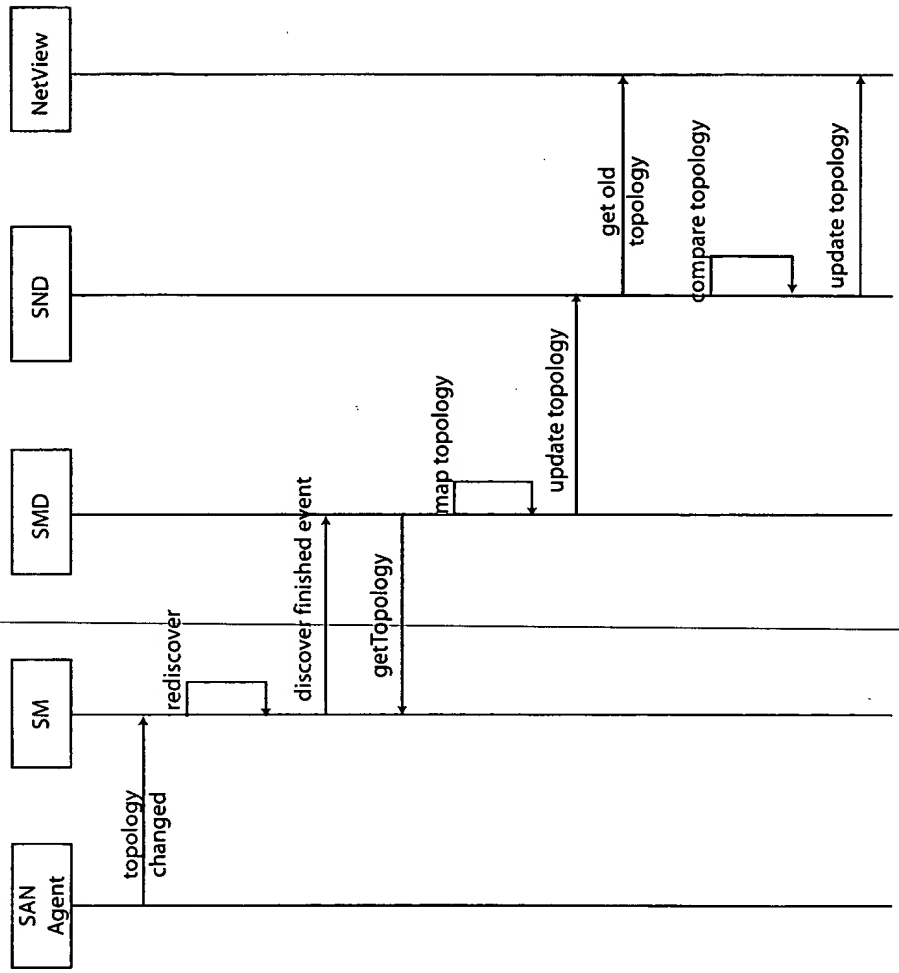


Figure 40

FIG. 41

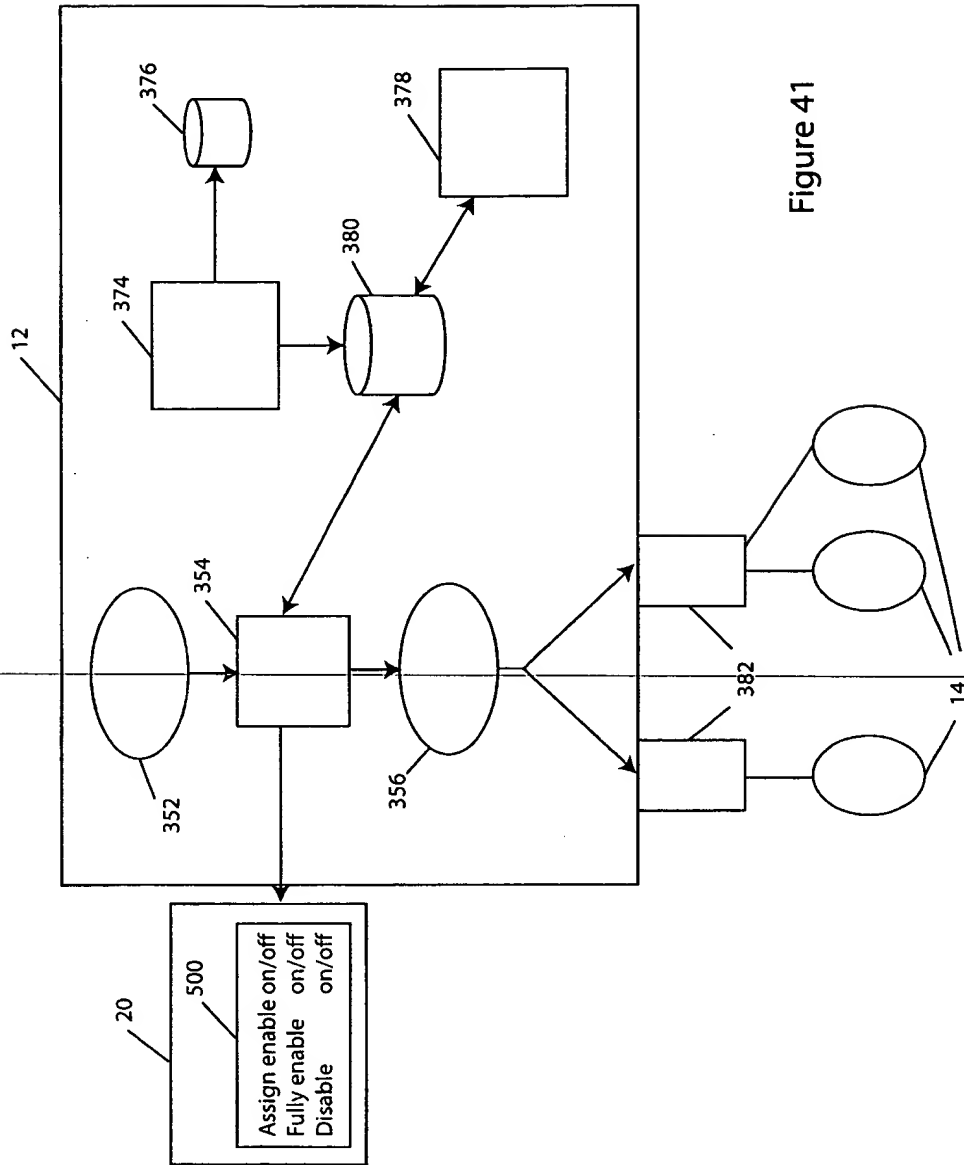


Figure 41

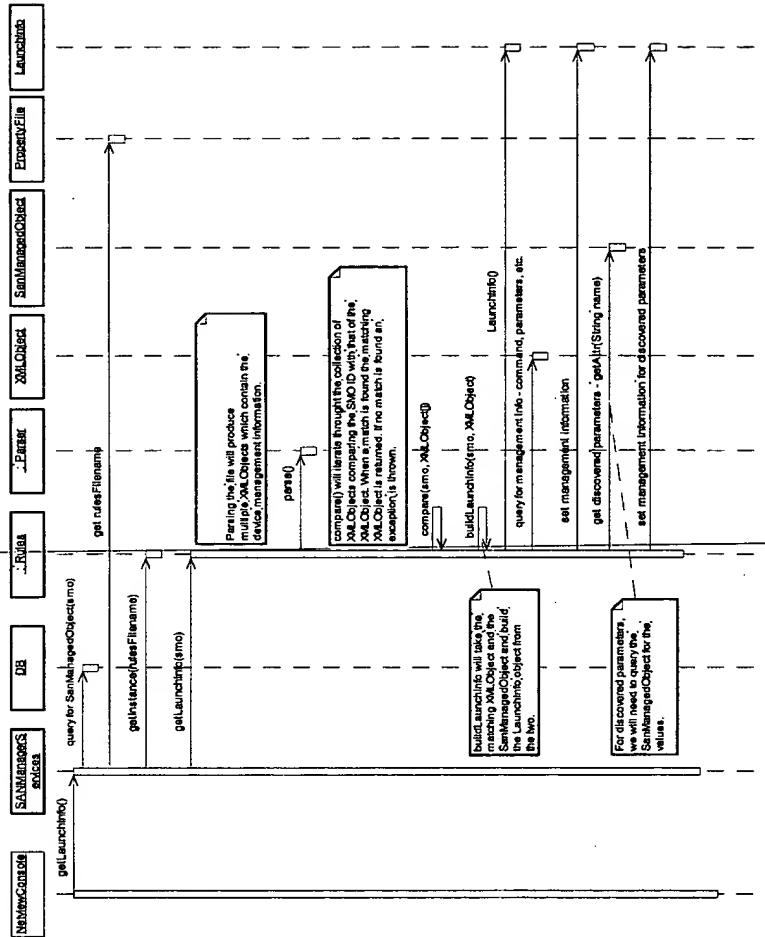


Figure 42

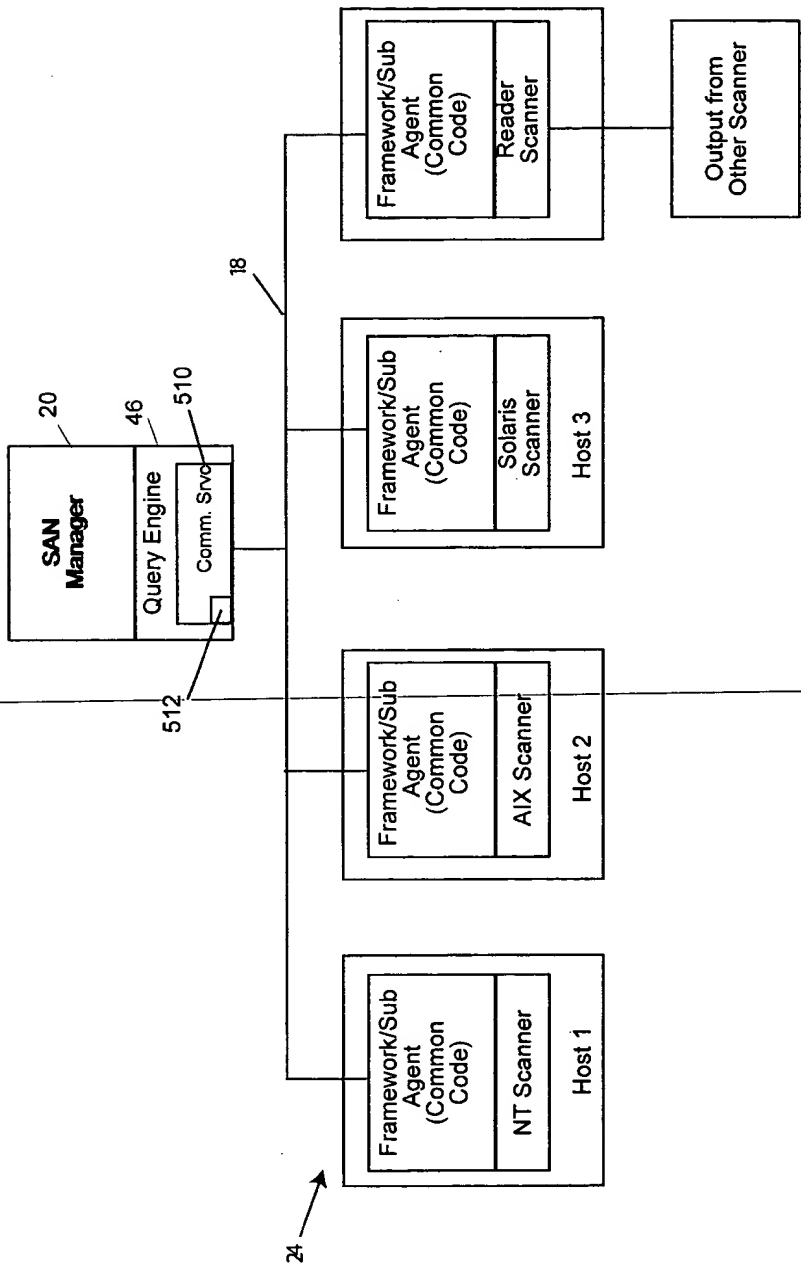


Figure 43